HYGEIA

The HEALTH MAGAZINE

PUBLISHED BY THE AMERICAN MEDICAL ASSOCIATION

SEPT. 1935

Report Cards

25 CENTS

Diphtheria

Left-Handedness

The Friend that Hurts

NOBODY welcomes pain. Yet it can be a friend in disguise.

Without a sense of pain to flash "Stop!" at the first hint of physical injury, we would be constantly burning, cutting or otherwise harming ourselves.

Without pain's insistent "Do something about it!" when things go wrong inside the body, many serious conditions would not be discovered until too late.

Yet many people fail to recognize that pain is a *warning*. The natural impulse is to regard it simply as something to be stopped—rather than a signal that other things may be radically wrong.

And this is a mistake that sometimes proves serious. For, when pain is deadened by self-treatment, one can easily be lulled into a false sense of security. The warning has been stopped—but the trouble continues.

Moreover, pain has a mysterious side that makes self-diagnosis doubly dangerous. Some pains are "*referred*" or "*sympathetic*" pains. That is, they occur in one part of the body, but are caused by disturbances in an entirely different part.

For instance, headaches need not start from trouble in the head. Frequently the primary cause is to be found in remote parts of the body; a headache is not uncommonly the first symptom of one of the infectious diseases.

The stomach, too, is more often the seat of *pain* than of *disease*. Frequently when pain evidences itself there, it is because of trouble in the heart, appendix, intestinal tract or other part of the body.

When a pain persists, or recurs frequently, there is only one sensible thing to do . . . *see your doctor.*

He can nearly always relieve your pain. What is more important, he can usually trace it to its source. And having located the trouble, he can take the necessary steps to correct it.

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HYGEIA•

SEPTEMBER 1935

THE HEALTH MAGAZINE

Published by the American Medical Association
Edited by Morris Fishbein, M.D.

Volume 13
Number 9

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SEPTEMBER 1935

School Health Policies

By W. W. Bauer

TWENTY MILLION children, one person out of every six in the United States, will soon be on their way back to the schools. Compulsory education has afforded tremendous privileges to the American people but has also created problems. It has been said that compulsory education should not mean compulsory illness. There can be no disagreement with such a principle. It has also been said that the school is responsible for the health of the child. Is this going too far?

The school has the child in its direct control for approximately 6 hours a day, five days a week, or about 30 hours out of 168, weekly for not over forty weeks. During this time the school can have a great influence for good or ill on the life of the child, but it cannot be held responsible alone for that child's health, nor should it attempt to assume such responsibility. To begin with, the child is at least 4 years old and in many communities 6 years old before entering a school. In the years between infancy and entrance into school many determining factors in the future health of the child may already have taken effect. To assess the school with responsibility for these occurrences beyond its control is not only unfair but illogical.

There can be no doubt that the school has certain definite responsibilities for the health of the school child. Briefly, these responsibilities may be defined as follows:

IT IS incumbent on school officials to provide an environment in which the child may not suffer from unwholesome surroundings. Environmental conditions include lighting, ventilation, drinking water, toilet and washing facilities, cleanliness of building and grounds, adequate play facilities, protection against accidents or excessive heat or cold, security against immoral influences, and the avoidance as far as possible of exposure to special environmental factors such as mosquitoes, which in certain localities may have definite health significance.

It is the duty of the school officials, either themselves or in cooperation with health officials, to provide for adequate observation, inspection and exclusion facilities to keep down the spread of the communicable diseases of childhood and to encourage immunization. School authorities are obligated to provide a curriculum which will be free from excessive overloading with work, high pressure and nervous strain and which will provide for proper proportions of mental and physical activities correctly alternated. This includes a reasonable supervision over extracurricular programs connected with the school.

The school system has another great obligation, which is more of an opportunity than a responsibility, the opportunity to teach healthy living. In the school, attitudes toward health may be built up which will be assets throughout the life of the child; on the other hand, if this opportunity is lost there will never be another equally favorable.

Another responsibility of the school system is to protect taxpayers against waste and misuse of public funds collected for educational purposes. Among the sources of waste are so-called "repeaters"; namely, children who must do their grade work over again. A considerable percentage of repeaters become such because of backwardness or impaired efficiency resulting from ill health, lowered vitality or prolonged absences due to illness or to unrecognized impairment of sight and hearing.

THE five responsibilities enumerated make a program big enough to take all the time, to tax all the ability and to challenge all the ingenuity of the most conscientious and capable school administrators and instructors imaginable. There is no necessity for going beyond the proper responsibilities of the school into fields which do not properly belong to the school. Medical treatment should not be undertaken by the school. Except for emergency first aid, which obviously would be rendered by any person anywhere when necessity arose, medical treatment is a proper function of the family in cooperation with the family physician. It is readily conceded that through its health educational responsibility the school may be obligated to encourage the dis-

EDITORIAL

covery and correction of physical defects; but the assumption of responsibility for actual corrections not only is liable to create problems of administration which are difficult or impossible of solution but constitutes bad health teaching, since it is contrary to one of the basic principles recognized by modern educators; namely, that a primary object of teaching is so to motivate the student that he will embark of his own volition on a desirable course of conduct. Teaching a child to look to his community, as represented by the school, for health service which in later life he ought to provide for himself is fundamentally unsound. The multiplication of clinics for medical and dental treatment in certain schools is not evidence of progress in public health; it is rather a concession to expediency and an acknowledgment that constructive community cooperation has not been developed.

Neither should the school embark intensively on social service. It should maintain cooperative relationships with social service organizations, but social service and charity are not the responsibilities of the schools. Teachers have a great opportunity many times to point out real needs in social service and relief; but when they proceed, motivated by compassion and sympathy, to the direct relief of economic distress they are prone to make serious errors and to complicate the sufficiently difficult relief situation still further.

THE schools in any community should have access to consultation with a medical adviser. In large communities this may be the health officer or a health department physician assigned to school work. It may be a physician employed by the schools. In smaller communities the schools may well turn to the county medical society and ask for an advisory committee. This school medical adviser should be what his name indicates, an adviser with respect to the school environment and curriculum, the health education plan and other special considerations relating to health. He should prescribe and put into effect a periodic physical examination for the school children, devising and maintaining the necessary records, having the examinations made by local family physicians whenever possible and providing examinations gratis for those unable to provide their own. He should encourage the carrying out of corrections of discovered defects and to a limited extent should carry out demonstrations of physical examinations for educational purposes.

The school medical adviser should encourage immunization against smallpox, diphtheria and in some localities typhoid. Wherever possible, such immunizations should be carried out by the family physician and should be paid for by the community only in the case of those unable to pay. The records should be kept in the possession either of the health department or of the schools, depending on local organization. The school medical adviser should supervise luncheon and cafeteria menus in the schools where such are provided; he should take all necessary measures by observation, inspection, exclusion and follow-up for the protection of the school group against communicable disease, and he should provide and supervise a plan whereby the health of teachers may be safeguarded and the school may be protected against the presence of teachers with communicable diseases; he should cultivate the cooperation with the schools of all agencies in the community, including groups and individuals who have a legitimate interest in the health of the children.

ALL these matters should interest not only school superintendents and school physicians whose immediate responsibility they are but other groups in the community, notably practicing physicians and parents. A recent study of group opinions relating to certain school health policies, conducted by the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association, developed many interesting facts, but the most significant of all was that the four principal groups concerned in the health of the school child, namely school administrators, school physicians, general practitioners of medicine and parents, are not sufficiently familiar with one another's problems to have a well balanced and comprehensive understanding of the whole problem of health among school children. The most urgent need today in every community is for a better understanding of mutual problems by school administrators and teachers, school physicians, practicing physicians and parents. The best way to get such an understanding is by repeated community conferences, either formal or informal, which will lead, if not to an immediate solution of all problems, at least to a better mutual understanding and progress toward the ultimate goal, which is better health for our school children and, through better health education, a better foundation for the health of future generations.

An Analysis of the Significance of

School Report Cards

Century-Allen

JOHNNY IS A BOY WHO HAS ABILITY TO CARRY ONLY A CERTAIN AMOUNT OF SCHOLASTIC WORK.

"REPORT CARDS were sent out the first of this week," said the School Counselor, "and as a result I've been surrounded again by irate parents. Some of them I was able to soothe, but there were others who would listen neither to reason nor to advice. There was Mrs. Jones this morning. Her son, Johnny, brought home a report card showing 2 *C's*, a *D*, and an *E* in curricular subjects, an *A*, a *B*, and a *C* in extracurricular ones—not a very good card when one considers that the *A* was given in Study Hall, the *B* in Orchestra, one *C* in Physical Education, a *C* in Latin, another in History, a *D* in English and an *E* in Mathematics."

"What do you mean by Study Hall?" asked one of the Counselor's guests at the evening game of bridge.

"Perhaps I should explain. You see, in our school we expect the student to carry four curriculum credits and from one-half to one extracurriculum credit each term. Four extracurriculum credits are placed in the requirements for graduation. We feel that these

credits are of particular value in stimulating the social relationships of the student and in proving whether or not he is adjusted to his surroundings. For that reason we give the student one-fourth credit for each term in Study Hall, one-fourth or one-half credit in Band, Dramatics, Choral, School Publication Work, Assembly Participation, Public Speaking, Debating, Athletics and several other courses.

"The bad part of Johnny's card was that he had 2 *C's*, a *D* and an *E* in curriculum courses, and such credits would not give him enough honor points either to graduate or to enter college. There was no question but that something had to be done about Johnny. Of course Johnny's mother was angry to begin with, but I always believe in frankness in discussing these school problems. According to Johnny's IQ rating card he was just normal—not average, but just within the normal range. The selection of the term 'normal' in this connection is perhaps unfortunate because it seldom tells the true story. It didn't in this case, for when I told Mrs. Jones that her boy was a normal boy as far as our methods of measuring intellect were concerned, she immediately said that she was going to insist that he work harder at his studies and thus get better marks. That is probably the right solution in most cases, but it wasn't in this one.

"I KNEW that with such an intelligence quotient, Johnny could never be a brilliant scholar. The *A* in Study Hall indicated that he studied hard. Further analysis of his report card told me even more important facts. That *A* of his in Study Hall probably seems unimportant to many, but it proved what I already knew of Johnny: that he was well liked by his fellow students, that he fitted into his class group and surroundings, was amenable to discipline, economical with his time and diligent in organized study. In other words, one might say that his mark in Study Hall indicated that under ordinary circumstances Johnny would make a useful place for himself in the world and could meet the average situation as it presented itself. The *B* in Orchestra showed interest in music, and it again told me that he was amenable to group discipline, conscientious in adherence to schedules, neat in appearance and well fitted to his group.

"The *C* in Physical Education indicated that he did not have any particular athletic ability, which was probably to be expected from his slight stature. It might also indicate some slight physical disability such as a defect in sight; but Johnny's physical records showed that no such defect was present. On the other hand the *C* in Latin and in History, the *D* in English, and the *E* in Mathematics were in agreement with his IQ. My advice under these circumstances was to drop one of these courses and retake it later.

"Perhaps most persons will ask, why not drop the Orchestra or the Physical Education, since they have little value from a scholastic point of view and take up time which might well be spent in studying? The modern school psychologist would not agree with that. Such activities are considered absolutely necessary in the modern school curriculum to help prepare the student for participation with his group in the activities of business and economic life.

"JOHNNY is a boy who has ability to carry only a certain amount of scholastic work. If the load is light enough he will probably be able to obtain good grades. He is a typical example of the student who should take an extra half year or perhaps several summer school sessions to complete high school work. Later, he can meet the requirements of college courses successfully if an extra full year of college is planned with schedules adjusted to make the four year course cover five years. A greater scholastic load at any time might change such an individual's whole attitude toward life by causing the development of a sense of inferiority. My suggestion was to allow Johnny to drop Mathematics and retake it the following summer.

"Mrs. Jones has not yet seen the value of my advice. She would not consider having Johnny drop a subject, insisting that if others could carry as much, her son could also; that is the poorest kind of argument. She insisted that the method of bringing up his marks was to make him study four or five hours every evening at home. It was impossible at the time to make her see the folly of such means. Johnny, as an example of many other children, has only so much mental capacity, and it is impossible to push any more than a certain amount of knowledge into his brain in any given time. In other words, beyond a certain point, increased study is of no value because of actual inability to assimilate and correlate knowledge. There are probably many parents who will disagree, but Johnny is fated to fail in school if a procedure similar to the one I have outlined is not followed. Failure can be avoided only by lightening his scholastic load. From Johnny's point of view it would mean much more to him than a slight readjustment of his mother's pride.

"Parents should spend more time in analyzing the scholastic report cards their sons and daughters bring home. Good or bad grades are not so important as is an evaluation of what those grades actually represent as indicators of social adjustment."

By

DON CHALMERS
LYONS

Osler, the Man

The Story of the Understanding Friend

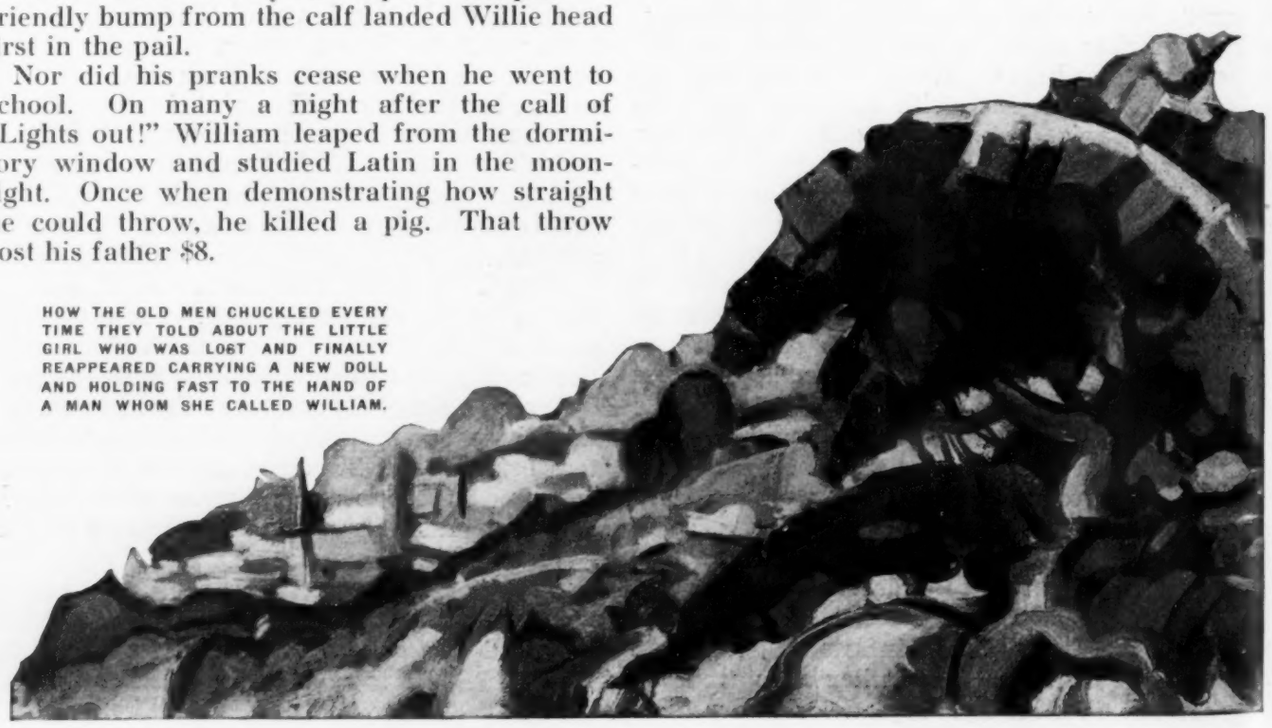
By FLORETTE LUCE NORDLUND

ONE JULY morning in 1849 in a parsonage at Bond Head in upper Canada, an Episcopal clergyman looked into the face of his new-born son. Two serious dark eyes blinked at him. "Little-burnt-holes-in-a-blanket," the father murmured tenderly. He did not know how far into the future those dark eyes would penetrate. He did not feel the healing power in those tiny restless hands. He did not vision the love for humanity hidden in the small beating heart. Had he been told, he could not have believed that the rosy bundle before him would bring honor to four great universities, would become the Regius professor of medicine at Oxford, a famous teacher and student of the nineties, the first great clinician and one of the greatest physicians of history. To the father bending over the crib this embryo Sir William Osler was just "Little-burnt-holes-in-a-blanket."

"Willie" spent his childhood days as does any boy in a family of nine. That he often went on exploring trips of his own is manifested by the fact that on the day his sister was born he and a calf were both tied to a tree in a lot near the house. A pail of tempting milk was standing near. Willie and the calf chose the same moment to break away and explore this pail. A friendly bump from the calf landed Willie head first in the pail.

Nor did his pranks cease when he went to school. On many a night after the call of "Lights out!" William leaped from the dormitory window and studied Latin in the moonlight. Once when demonstrating how straight he could throw, he killed a pig. That throw cost his father $8.

In spite of young Osler's love of mischief, his memory and concentration made him the highest ranking student in the school. At Weston school he was the champion athlete and the head prefect. But he was greatly worried those days for he could not decide whether to be a clergyman or a doctor. Fate took a hand. William hurt his leg playing Rugby and was confined indoors. He spent every spare minute studying the Reverend Johnson's botanical specimens under a microscope. Every weekend, Dr. Bovell came to Weston to supervise some of the work. This doctor became the inspiration of Osler's life. The name "James Bovell" appears in Osler's writing again and again in his notebooks. About this time he became engrossed in "Religio Medici," a book which greatly influenced his life. In 1868 he decided definitely to study medicine. Of all the important decisions Osler had to make during his life, this was the only one over which he wavered. After his decision he advanced rapidly. First he went to Toronto for study; then to McGill University and then abroad. In 1875 he was made a professor at McGill. His first official act was to order twelve microscopes for his class. The dark eyes once called "Little-



HOW THE OLD MEN CHUCKLED EVERY TIME THEY TOLD ABOUT THE LITTLE GIRL WHO WAS LOST AND FINALLY REAPPEARED CARRYING A NEW DOLL AND HOLDING FAST TO THE HAND OF A MAN WHOM SHE CALLED WILLIAM.

burnt-holes-in-a-blanket" were again to penetrate the tiny and mysterious things in life.

In 1884 Osler was forced to make another decision. He was offered a professorship in the University of Pennsylvania. "Shall I go?" he asked himself. He flipped a coin. "Heads I go to Philadelphia; tails I remain in Montreal." The coin fell "heads."

October 1884 found him in Philadelphia. Picture a class of medical students waiting critically to catch a glimpse of the new professor imported from McGill. Imagine their amusement when a small, dark complexioned man with a moustache that drooped at the ends, with a small satchel in one hand and books under the other arm, jumped from the back end of a street car. Their eyes probably twinkled as they took in his flowing tie, low shoes and heavy socks. Perhaps they also caught the spark of friendly amusement reflected in the dark eyes that for a second challenged theirs. Picture the same Osler sitting on the edge of a table twisting his ears and dangling his legs as he showed actual examples of the diseases about which he lectured. No doubt he was not at his best in the lecture room; but in the wards, surrounded by enthusiastic students, he presented a different picture. Immediately, Osler fitted up a small clinical laboratory, and so helpful was he that students flocked to him for encouragement. One compared him to a "breath of fresh air let into a stifling room."

BUT Osler was too rare to be left alone. In 1889 he was transplanted to Johns Hopkins University. During his early years there, two important things happened: his marriage to Paul Revere's granddaughter and the birth of his son, Edward Revere Osler.

Osler made use of every minute of the day. He rose at 7 o'clock. While he was dressing, some one often read a classic to him. At 8 he ate breakfast, and at 9 he was at the hospital where he worked until 1 o'clock. His luncheon was followed by a few minutes' rest. Then back to work again. At 4:30 friends and students gathered in his parlor for afternoon tea. Osler always appeared for five or ten minutes. Then

he disappeared into his study where he wrote or held consultations. At 7 he had dinner. He did not study at night. Often before he retired at 10, he romped and played with children of his acquaintance. Rollicking games! Hilarious pranks! Thrilling stories! He wrote delightful letters to his little friends, full of whimsical thoughts and sayings which he repeated again and again. The little folks loved his "You can I never forget," "The light is too strong for your eyes," "You can I always remember," "It's myself that's longing to see you." If your hair was curly he might call you "Bed-Springs." If your eyes were wide open, you were "Owl's Eyes."

Had you followed Osler some morning to his Johns Hopkins clinic, you would have seen him open the hospital door at five minutes of 9 and walk down the hall. He would have linked arms in a brotherly manner with an assistant who stepped forth to meet him. You would have seen the sensitive mouth break into smiles as he waved greetings to nurses and students. Perhaps the master would have thrown his arm around the neck of a second assistant. And so the group would grow. Around one patient and then another, all would assemble. How anxiously the sick would await the Osler smile of assurance! With those who were better he would laugh and joke. To all he would breathe the hope of recovery. The students listened intently to every word, for it was Osler who first made it possible for them to study in the wards.

But even Johns Hopkins could not hold Osler. Oxford reached across the Atlantic and claimed him. The quiet of the old English town appealed to him; so the Oslers, William, Grace and Revere, were transplanted in the quiet English village where only the cooing of the pigeons kept them awake. Because Osler was the Regius professor of Oxford, he was also the curator of the Bodleian library and the master of the almshouse of Ewelme.

When the new master made his first visit to Ewelme, fourteen miles from Oxford, no doubt it was a busy day at the almshouse. The thirteen almsmen bustled hither and thither. With burning eyes, they watched the master's quarters, overlooking the peaceful court of "God's House" being prepared for occupancy. Such a thing had never happened before. The master himself was coming to live with them! Greater still was their wonder when Osler told them that this would be an annual occurrence. Their old eyes brightened as they caught the twinkle in the merry dark ones of the new master. As long as they lived those thirteen old men talked about the picnic one day at Henly Road. Four hundred guests, all the children and their parents from the thatched village at Ewelme, had been invited. How the old men chuckled every time they told about the little girl who was lost and finally reappeared carrying a new doll and holding the hand of a man she called William. It was a day of happy surprises to become a day of tender memories.

When Sir William was at Ewelme the almsmen always attended services in the old church with the square tower. "It is not quite fair to Alice of Suffolk not to go to church," the master told them. Somehow he made them feel that way about it too. After all they did owe a great deal to Alice of Suffolk, the granddaughter of Thomas Chaucer, for it was she who had endowed the almshouse with the old church and beautiful court. After five centuries the church and court remain the same. But it took William Osler to rediscover the quaint, picturesque beauty of the place and to preserve the old fourteenth and sixteenth century documents which he found locked in an old safe.

The years raced by. Osler was so engrossed in his work that his keen eyes did not discern the war clouds growing larger and blacker, coming nearer and nearer. He had always hated war. Often had he called it the curse of nations. He had dedicated his life to healing and building. Only when his country was at peace could he do his work. When the youth of England poured from the colleges to answer the call of the colors, Oxford became a haven for Belgian refugees. Professors and their families from Belgium shared the Osler home from time to time. Boys on furlough were welcomed to the home of the kind doctor. When Revere's turn came to go, Osler's heart was sad. He was not glad to send his boy to war. Revere must go because it was his duty to go.

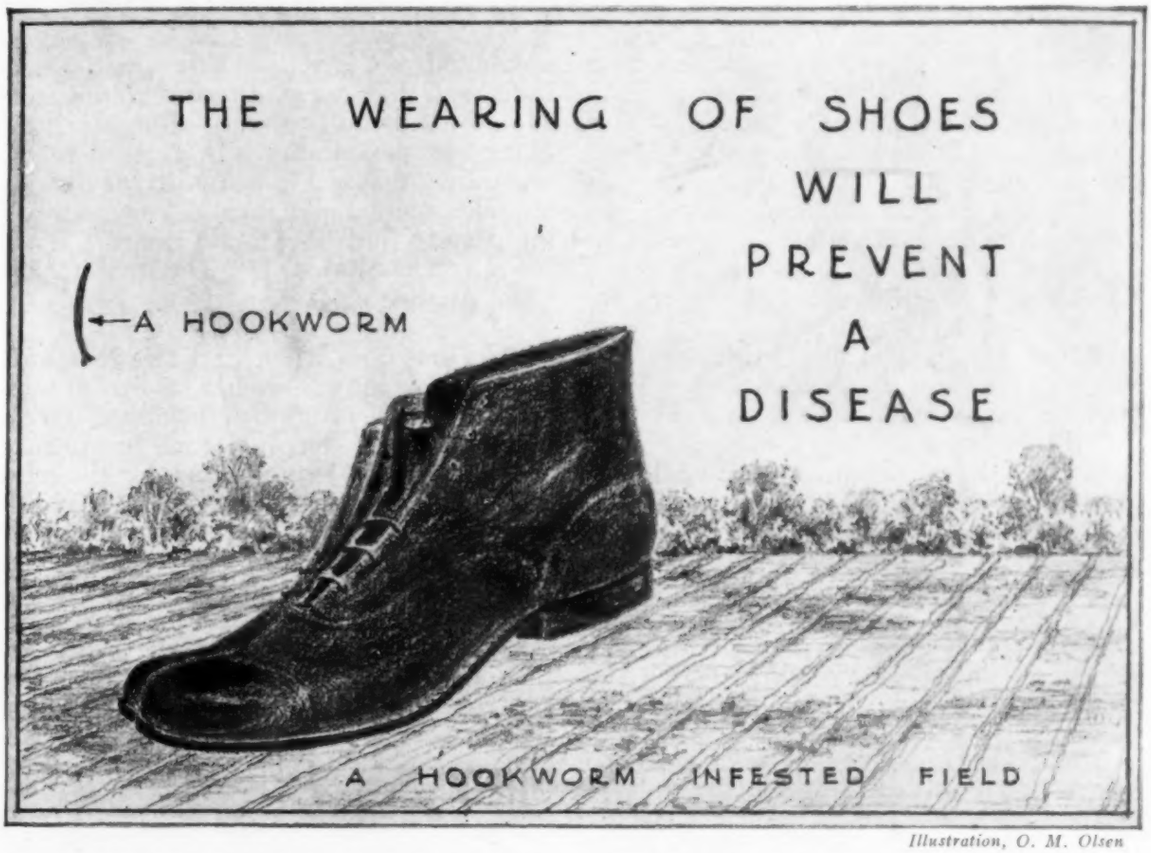
Every day found the doctor in hospital wards caring for sick and injured soldiers. One day word came that Revere had been killed. The tender heart of the father bled, but he carried on. However, the old spirit was gone, never to return.

On the eve of the New Year, 1920, the beloved Osler lay asleep in beautiful Christ's Church, Oxford. A single sheaf of lilies and his favorite copy of the Religio Medici rested on his casket. Shortly before the famous physician had passed on he had written, "The harbor almost reached after a splendid voyage with such companions all the way and my son awaiting me."

As Osler wished, his ashes and books were taken back to Canada. In a beautiful fireproof room of the Strathcoma Building of McGill University his books were placed. At one end of the room in an alcove is a bronze medallion with a portrait of Osler. Behind this portrait are his ashes. As the students sit in easy chairs reading the great doctor's books, surely his spirit communes with them. Perhaps, like him, they do not wish to die for their country but to live to serve her.

Curious Stories About Health

The First of a Series by MELVIN PRICE ISAMINGER



Illustration, O. M. Olsen

THE WEARING of a shirt during exposure to the summer sunshine will protect the back against sunburn, and the wearing of shoes will prevent a disease; but strangely contrary to logic the disease in the latter case has little to do with the feet.

In some tropical and subtropical parts of the world the soil is literally alive with worms that produce a disease in man once they gain entrance into the body. These worms are hookworms, which in the larval stage pierce the skin of a bare foot usually between the toes; thereupon they reach a blood vessel and travel toward the heart and thence to the lungs. They exit from the lungs by way of the bronchi and continue their journey, up the windpipe to the throat, where they are swallowed, passing down the espohagus to the stomach and ending the unique journey in the small intestine. Here they develop into full grown hookworms from ½ to ¾ inch in length.

The hookworm with its powerful mouth takes a firm hold on the tissue, which it consumes, leaving the lining of the intestines bleeding as it moves from one place to another to drain the vitality of the person.

Hookworm is thought to have been introduced into America by the African slaves, although not until 1893 was a case of hookworm disease reported in the United States. It is prevalent in the southern rural districts where careless disposal of excreta prevails. The conditions of the soil must also be favorable for the free-living stages of the worm.

THE severity of the disease depends a great deal on the number of hookworms, more than 2,500 worms having been found in one person. On the other hand, a patient with 25 hookworms does not show the characteristic symptoms of the disease. An infection of 100 or more hookworms produces severe anemia and stunted mental and physical development among children, the colored races showing a higher resistance than the white race.

The average hookworm will live about four or five years, and if the person is not reinfected the disease subsides. Satisfactory treatment with chemicals may be obtained.

The wearing of shoes prevents the larva from entering the body, and good sanitation will prevent the hookworm eggs from reaching the soil.

PUPIL—or PROFESSOR?

An Article in Which ELIZABETH M. STALNAKER Views the Nursery School from a New Angle

IT HAS taken 1,900 years for the human race to realize the practicality of the saying, "A little child shall lead them"; but at last it is a reality and not a figure of speech. Many universities and private institutions not only in this country but also in England and on the continent of Europe now offer for adult students, juniors, seniors and graduate students, certain courses in which the real professors are children, 2, 3 and 4 years of age.

The classes of these young professors are never boring; quite on the contrary, they keep their students on tiptoe from the moment they arrive until they leave. Every minute is full of something new. Never is one of these adult students caught napping, as is often the case in the classes of the older professors.

There is something inspiring, something fresh about these youthful professors—a novel quality in the general run of professors; consequently their adult students wake up and in turn are inspired or, at any rate, are filled with true veneration for their instructors. For the most part these young professors have a practical, matter-of-fact turn of mind and are not nearly so fanciful, imaginative or unrealistic as most adults believe children to be.

The professors of this type of school are not required to hold any degree; all they need is a certificate, a birth certificate, which testifies that they have been in this world from two to four years, more or less, and are still in their most rapid period of growth. But while they are in this period they are fast workers. There is something vital about them and the way they do things.

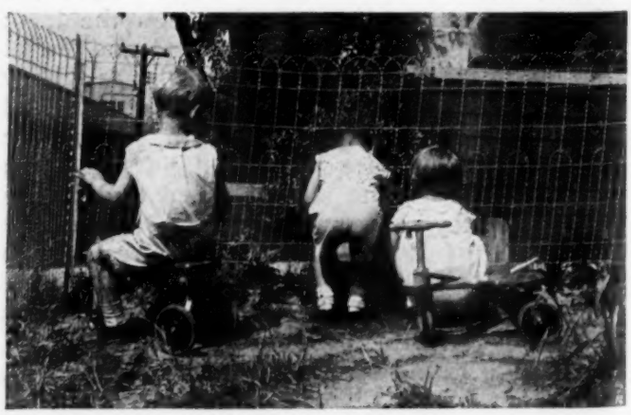
This new type of school may be called a nursery school, a child institute, a child research center or a preschool laboratory. It makes little difference what it is called. All such schools exist for the purpose of giving the elders an education.

This type of school differs from the traditional schools, such as those run by older heads, in that it is a community affair. The teaching is done in groups to let the students see what social adjustment really means and to let them see how new ideas are born and quickly grow into action. Of course, when necessity demands it these professors teach their students individually for along with their other qualifications they possess the rare one of adaptability.

The faculty of a school of this type in a southern university consisted of twelve members, six boys and six girls. Their intelligence tests indicated they were all normal or somewhat superior, but no two were alike; each one was a distinct personality. In fact some of them had such marked personality traits that the students nicknamed them. They were "Rough and Ready Bud," "Esthetic Claire," "Fastidious Eddy," "The Show-Off," "The Peacemaker" and "The Aggressor."

IN THE morning when he came to school each professor usually brought one parent along, but parents were promptly dismissed on arrival. One of the younger professors, just past 2, could not be bothered with parents, for the most part, so he often came alone in a taxi. Since he was very independent he did not mind coming alone. One professor was an only child, and occasionally she cried when she sent her mother back home. She realized her mother would be lonesome without her, and she could not help feeling sorry for her poor mama. Another professor was obliged to kiss his daddy time after time before leaving him. He was affectionate, and his daddy seemed to expect that little attention.

The curriculum offered at this school was of the most progressive type. One course was in personal health and hygiene. This course was taught by example, not by precept. Each morning a trained nurse was on hand to see that they were physically fit for the day's work. They held also to a strict regimen of water drinking at stated times, of regularity in toilet processes, of imbibing orange juice for the necessary vitamins and of meals which contained the food essentials that would best fit the needs of growing children.



IN NURSERY SCHOOL THE REAL TEACHERS ARE THE CHILDREN.

They offered a course in physical education in which the teaching was carried on by demonstrations. They showed their students how to slide down a board, how to climb ladders, how to swing, how to run down the cellar door and how to jump. One often heard a professor say, "Watch me," or "See me," or "Look at me" when a student's attention wandered too far afield. In this course they impressed on their students by their very acts how important it is not to be chagrined by failure but to try and try again; in other words, to persist until one comes out triumphant.

There was a nature study course. Here the laboratory and exploratory method was used as befits a science. Day after day they dug for "fishin' worms" or searched for snails and snail shells. Sometimes they concentrated on such work for thirty minutes at a stretch. Then they studied bugs, chased butterflies and watched birds. The students were often assigned the task of holding worms, bugs or snail shells until the professors wanted them again.

Some of the female professors demonstrated by means of a sand pile certain kinds of cookery to those who were interested.

There was also a course in the manual and fine arts. Throughout this course the method was chiefly one of demonstration, although for the edification of their elderly students the professors often sensed the need of an explanation, so while they were building with blocks they would say, for example, "I'm building a garage," or "This is a bridge." When they were at work in the sand pile one might hear, "This is the road to Pittsburgh, and this is the tunnel." When working with modeling material they once found it necessary to explain to their puzzled students that what they saw were snakes hunting their nest.

THEY OFFERED A COURSE IN PHYSICAL EDUCATION IN WHICH THE TEACHING WAS CARRIED ON BY DEMONSTRATIONS.

In drawing they found their adult students exceedingly dull of comprehension. The professors thought that they had little or no imagination. After all, what difference did it make if a man had no body so long as he had a head and legs and could get around? And the number of toes might just as well be three as five!

More spectacular perhaps were the methods used in the courses in habit formations, such as sleeping habits, eating habits, habits of social cooperation and social independence. Here they often showed first the wrong way of doing things and set their students the task of finding out why they did it that way and discovering a means of solving the problem. This course in problems was offered especially for the graduate students. For example, one day Professor Charles showed them that when he drank all his milk and ate his sandwiches first at lunch, his appetite was appeased and he did not care for the rest of his meal. The problem was how to get him to eat his vegetable, his meat and his dessert. The students thought and thought, and finally they suggested that if he ate first his meat and vegetables, then his milk and sandwiches and after that his dessert, all would be well and he would not suffer for lack of alphabetic vitamins. Professor Charles insisted on the wrong way for a short time just to show them that sometimes it is difficult to break a habit.

Professor Pat demonstrated that it does not pay to do too much talking at the table. He found it was much better to attend to business, and he pointed out that fact to his students; for the very day he took up so much time talking was the very day ice cream was served for dessert, and he got none because by the time

THEY SHOWED THEIR STUDENTS HOW TO SLIDE DOWN A BOARD, HOW TO CLIMB LADDERS, HOW TO SWING, HOW TO RUN DOWN CELLAR DOORS AND HOW TO JUMP.

he was through talking it was time to leave the dining room to get ready for the afternoon nap.

Professor Buddy taught them that young children have to learn to eat each new food, especially the vegetables. But by persistence he proved to them that in six weeks' time a 2 year old could learn to eat six new vegetables if they were served in small portions at first and were eaten before other much liked food was tasted.

WHEN the course in sleeping habits was given, the professors were forced to show how adaptable they could be, for although each and every one was accustomed to his own bed at home, at school they were obliged to sleep two on a large mattress placed on the floor, camp fashion. Only one voiced any protest to the "mattress beds," and he did not let it interfere with his nap. In this course they demonstrated that during sleep the most natural postures were lying on one side with one foot drawn up to the body or lying stretched out straight on their backs. The students were set the task of observing the postures taken in sleep, of keeping a daily record of the length of time each professor slept and then of wakening their professors after an hour's sleep should they be inclined to sleep longer, because these instructors did not wish to be stupid the rest of the day or wide awake when bedtime rolled around. When the students reported that Monday was the poorest nap day the faculty were unanimous in their opinion that it was due to the week-end parties at home or on trips with their parents.

For the course in social and moral habits they sometimes used the lavatory as a laboratory. Here they convinced their students that people as young as 2 years can learn quickly to take turns, to help themselves in buttoning and unbuttoning their clothes, to wash face and hands, and so become independent of adult assistance. The wholesome, matter-of-fact attitude taken by both sexes toward toilet processes was a surprise to many of their adult students.

Professor Eddy showed them the effects of "conditioning." When he was served his orange juice at the midmorning lunch he wanted to know before he would taste it whether it had anything in it. Too often had he been fooled. More than once he had thought he was taking nice orange juice, only to discover it had castor oil or some bitter medicine in it. By this exhibition, Professor Eddy let the students see how personalities are made.

Occasionally the professors got into fights. The students, somewhat abashed, did not know what to do, so they wisely did nothing except stand off and watch, which was exactly what the professors wanted them to do. They were merely showing their students that at times it is necessary for one to stand up for one's rights or hold one's own ground. The students observed that sometimes a special friend came to the rescue and sometimes the "Peacemaker" used the psychologic device of suggestion or distraction, but for the most part a momentary interest in the altercation was followed by indifference on the part of the other members of the faculty, and the disputants were left alone to settle their differences.

ALTHOUGH the school was conducted in rather close quarters the students never once heard a professor grumble about limited space and poor equipment. They simply made the best of it in a truly philosophic way and offered no excuses or alibis for poor performances or results because of this handicap, as many adult professors have been known to do.

And when the day's work was done each professor said "goodbye" to his students and went happily home with his mother or nurse. Each new day saw him return stronger, wiser, with more understanding of his world and the people in it and with ever increasing power and skill for stimulating, enlightening still further his adult students in their search for knowledge of child life.

PROGRESS

I can put my wraps on,
As a rule,
Now that I go
To nursery school—
Leggings and rubbers,
Coat, hat and sweater;
When I've practiced a little
I'll do it much better.

By BEATRICE CREIGHTON

HAY! HAY!

By Dean Collins

Willum McKeever, he had the hay fever
With huffles and snuffles galore;
All day he was pranky with menthol and hanky,
And next day he had it some more;
Betwixt his loud sneezes and gurgling wheezes
He'd hie to the doctor each day,
Who said, "We will inject this and that to detect
Just how it comes you are this way!"

So he intoned a charm, and he scratched Willum's arm
With a scalpel in long serried rows,
And into each scratch he inserted a batch
Of whatever a man might suppose
Would cause poor McKeever to have the hay fever;
And Willum, with eyes all agog,
Recited the snatches of what filled the scratches
In fevered and fierce catalogue.

"They've scratched me all over and tested with clover
And jimson, alfalfa and beans,
With goldenrod blossom and hair of the possum
And spinach and fresh lettuce greens,
With dandruff and brick dust they've scattered a thick crust,
Some talcum and sulphur and zinc,
Gunpowder and gin and gum arabic thin
And the dust of the Indian pink.

"Hen feathers, bone buttons and wool of the muttons
And celluloid collars are pressed,
In spite of my roars, through my quivering pores
To work out the hay fever test.
Lip-stick and blond hair nets this testing affair nets;
And if he is not a deceiver,
Old Doc will inspect and perhaps he'll detect
Just what it is gives me hay fever."

Straightway poor McKeever with raging hay fever
Went staggering back to the doc,
And said, "Give a look, and then read in the book,
And the cause of my sickness unlock!"
The doctor looked over from feathers to clover
And said, as he lighted a match,
"There isn't a fraction of any reaction—
It's something that's not in this batch!"

Next day in fresh patches he gave him more scratches
And poured in some concrete and lime,
Mint, lavender, thistle, and said with a whistle,
"Perhaps we will guess it this time."
But "In spite of your doing this fancy tattooing,"
Said snuffling, poor Willum McKeever,
"No matter what catches or don't catch these scratches—
Doggone it, I still have hay fever!"

And Willum McKeever, with still the hay fever
That nothing would banish or charm,
Secluded, reposeful, and snuffly and noseful,
Now pensively watches his arm;
From feathers to possum to goldenrod blossom,
He murmurs the whole of the list
And says—and releases a riot of sneezes—
"There must have been something we missed!"

REGINALD FITZ Makes Some Pertinent Remarks About

YOUNG PEOPLE AND THEIR PARENTS

THE PRESENT FASHION FOR FATHERS AND MOTHERS TO BECOME FRIENDS WITH THEIR CHILDREN AND TO PLAY GAMES WITH THEM IS HELPFUL IN THAT IT DOES MUCH TO BREAK DOWN BARRIERS THAT MAY EXIST BETWEEN THE TWO GENERATIONS AND TO MAKE MUTUAL UNDERSTANDING A POSSIBILITY.

NOT LONG AGO, I went to see "Ah, Wilderness," an entertaining comedy by Eugene O'Neill which deals with the difficulties of a certain Miller family on the Fourth of July 1906. The family is an average small-town American one, consisting of a father and mother and four children who range in age from a Yale undergraduate with his bulldog pipe to an 11 year old boy. The father, a worldly-wise old chap, is in his late fifties while Mrs. Miller is a few years younger. It amused me as I watched the play develop to imagine the medical problems of this particular family.

In 1906, Theodore Roosevelt was in the White House and the country was enjoying comparative peace. Electric lights and telephones were in general use although automobiles were still in their infancy. Our towns and cities were evidently much more independent and isolated than they are now, and they had more definite

individuality. The family doctor was still a personage, while vitamins, glands and specialists were by no means common knowledge. However, people were born, grew sick and died, so the industry of medicine was well established. A doctor expected to encounter a fairly high infant mortality and to lose a certain number of maternity cases each year; he saw plenty of measles, mumps, whooping cough, scarlet fever, diphtheria and chickenpox; he anticipated a busy autumn with a lucrative epidemic of typhoid which would buy his winter coal, and he always had on hand a certain number of patients who sooner or later would die of consumption.

Operations were not fashionable. Mrs. Miller herself was a good practical nurse and knew the merits of paregoric or of a red flannel poultice on a sore throat. She was very free, too, with the use of castor oil when the children had a stomach ache. When one of them had to have that new-fangled operation for appendicitis on the kitchen table and almost died, it never occurred to her that her castor oil had been a factor in aggravating the illness. The children, of course, went to the dentist once a year, and she tried to make them brush their teeth at least once a day. She considered the Saturday night hot bath a proper procedure and washing before meals somewhat of an unnecessary luxury. All Mr. Miller's teeth were gone, and so were most of hers. Consequently she was not especially concerned when one of the children had a toothache; if the gumboil didn't cure itself pretty promptly, the tooth was liable to come out.

The younger children walked to school every day. They played baseball and football or tag on the streets and had plenty of fun. They had comparatively few colds during the winter but were apt to be strangely lackadaisical at times and to have many headaches. This was accepted as a matter of course for almost no attention was paid to fresh air in the schoolroom or to children's eyes or ears, nor did any one care much about the medical problems of adolescence.

The family doctor did not have much sympathy with people past 60, for folks as old as that were rather rare and were expected to die soon. Facilities for x-ray examinations were inadequate, so it was impossible for the doctors to recognize with assurance conditions such as gastric ulcer, cancer or gallstones. Even the later manifestations of syphilis were frequently overlooked because the Wassermann test had not been perfected. So the family doctor floundered along as best he could, making a good many mistakes but looking forward to the day when things would be different.

In 1935, things certainly are different, and the changes in the relation of the family doctor to young people are especially significant.

People naturally continue to be born, to grow sick and to die, so the industry of medicine continues to be well established. But the medical problems of the average family are radically different from those of twenty-eight years ago. Maternal and infant mortality are much lower; this is due in part to the recognition of the importance of prenatal care and in part to improved methods of infant feeding. The family doctor still expects to treat plenty of measles, mumps, whooping cough and chickenpox each year, but he knows how to prevent diphtheria and typhoid, and consequently these diseases are becoming rarities. Scarlet fever is rapidly becoming uncommon, and tuberculosis is not so threatening; on the other hand, infantile paralysis is more of a menace, and from time to time the doctor has to contend with epidemics of lethargic encephalitis, or sleeping sickness.

The process of education has become so much more highly developed that many teachers now recognize that the physician occupies an important place in the school life.

Several years ago I attended a medical meeting in Iowa City and heard a most interesting discussion. The department of education, University of Iowa, had been studying the relation between mental and physical efficiency in young school children. It appeared that strong, well nourished children had a better brain capacity on the whole than those in poorer physical condition with a corresponding family background. Many people argue that children of high school age who have good physical development are apt to make the better scholars, and when they go to college they are likely to maintain their leadership; the same general rule holds in a graduate school like the Harvard Medical School, and I have the impression that it continues throughout a lifetime. Evidence and opinions of this sort make me believe that adequate physical education is a significant part of general education.

Dr. Channing Frothingham speaks of the modern doctor as the family medical adviser. His work in large measure deals with the regulation of healthy people's lives, and in the course of his experience he encounters a variety of problems, many of which deal with school children. The family medical adviser knows a good deal about human nature. He knows that between the ages of 10 and 20, boys and girls are likely to undergo a period of rapid growth and face a somewhat critical period, both physically and psychologically. He knows that boys and girls mature at about the age of 14 and are likely to behave peculiarly. He knows that in addition to the absences caused by his old friends measles, mumps and chickenpox, prodigious amounts of time are wasted each year because of such infections of the upper respiratory tract as sore throats, colds and coughs. The other

major medical problem in children involves disorders of the gastro-intestinal tract. The family medical adviser knows that most people eventually grow up, all pretty much alike, fairly simple at heart but easily swayed by the dictates of fashion. He knows that boys and girls are likely to marry, occasionally when they are about 19 years old, though usually in their middle twenties. He has studied modern American marriages and knows that only about 10 per cent result in more than three children; nearly one-third are sterile, and most couples are content with one or two babies. He believes in the future of America. By virtue of his peculiar human relationships, he feels at heart a strong sense of responsibility to the nation, which he can fulfil only by doing his best to direct the minds and bodies of young people in the proper direction.

At present, teachers, professors and doctors are teaming together for the good of the country in a much more significant manner than many people recognize. Boys and girls, like their parents, enjoy being fashionable. Largely as a result of the work of teachers and doctors the present style in boys and girls is extremely creditable. Teachers have devised means for making school work interesting, and as a result they are developing children's minds more intensively than was considered possible a few years ago. Children of exceptional ability are no longer held back but are encouraged to grow and to expand as fast as they wish; backward children, on the other hand, are carefully studied as individuals and encouraged or stimulated by various ingenious devices. A doctor conducts annual physical examinations on school children, examines their eyes, teeth and ears, and makes sure that they are properly fed. He does what he can to prevent the appearance of infectious diseases, keeps accurate records of physical development and sees to it that the program of the individual child who is growing too rapidly or too slowly or who is in any way abnormal is modified appropriately.

School athletic policies have become well defined. Games are taught and supervised properly so that there is no bullying. Even the most clumsy or diffident boy or girl now has a chance to play some sort of team game and to learn something of physical discipline, self control and courage.

Nothing irritates me more than certain sporadic efforts to economize on public school or library budgets. Looking at the matter broadly, to a large extent teachers have in their hands the future of the country. They deserve every encouragement in their work. The only way in which they can improve their standards is by being afforded opportunity, equipment and adequate salaries. If school and college teaching does not advance steadily, the development of the country will be impeded.

The family medical adviser continuously encounters new crops of baffling problems. He too is subjected to the influence of the fluctuations of fashion, and it takes a shrewd, level headed, independent doctor to maintain his balance in these times of rapid change. Exaggerated importance is attached to each new medical discovery. The tide of popular interest brings to the doctor's door hypochondriacs, self diagnosticians and those who avidly adopt each new fashion in disease. Each proposed new

To My Adolescent Son

By KATHLEEN SUTTON

Fifteen, my son, can hardly be as wise
As this new learned assurance in your air,
This self important attitude, implies.
Yet I, who am your mother, scarcely dare
To make the least suggestion for your good;
This strange reverberant voice, this sudden height
From which you tower above my womanhood,
Have trapped me in a most bewildering plight.

For I, who have been comrade, doctor, nurse,
And rushed with iodine or quickly healed
Your wounds with chocolate cake, am quite averse
To being dismissed so coolly from the field,
To bear in tactful awe and secret rage
The innocent condescension of your age.

method of treatment, each recently named symptom complex arouses a wave of interest which threatens to engulf patient and physician. Thus there have been periods of popularity for tonsillitis, appendicitis, colitis and numerous other conditions; and each new fashion has had its followers, who welcomed the slightest pretext for a tonsillectomy, an appendectomy or the currently popular method of treatment for the currently popular disease.

A generation ago the boy or girl who grew a little too rapidly or too slowly, or who was a little too fat or too thin, or too stupid or too bright was not considered uncommon and was not subjected to medical tests. At present the metabolism machine enables one to learn a great deal about the various factors that regulate adolescence. A few years ago it was fashionable for girls to be thin. This year when I addressed the Radcliffe freshmen I was delighted to find that there were fully as many girls who wished for advice regarding how to gain weight as how to lose, a direct reversal of the state of affairs eight years ago. I have interjected these remarks chiefly to put in a plea for the family medical adviser when he plays the part of school master. On the whole, he does a good piece of work under considerable difficulty. Support him and the school teachers loyally; pick out a doctor for your family who is sane, sound and conservative; follow his advice through thick and thin; do not be misguided by that flippant jade called Fashion, and do not take medical advice from friends.

Boys and girls of the present day are most emphatically all right. They are faced, however, with certain problems which did not perplex their fathers and mothers. One of the most serious of these is their desire for speed. I do not know the solution of the problem. It is appalling, however, to realize the number of young deaths that occur each year among college students from accidents of one sort or another that should be preventable. The question of alcohol is no more important than it has always been. The morals of young people, too, are perfectly proper. There are bound to be a few experimentalists in each young generation who dabble with immorality or overdrinking, but on the whole they represent a small minority. I cannot believe that any serious degree of indecency can ever become fashionable in a country like ours with its history and traditions.

Fathers and mothers will always find their children difficult to understand. Certainly Mr. and Mrs. Miller were as much perplexed by the radical views of their son Richard who found Omar Khayyám and Bernard Shaw worth talking about as present-day parents are by their children's familiarity with freudian complexes and the work of Havelock Ellis. Mr. Miller's point of view, however, is as sound now as it was in 1906. "Can't you see," said he, "Richard's only a fool kid who's just at the stage where he's out to rebel against all authority, and so he grabs at everything radical to read and wants to pass it on to his elders and his girl and boy friends to show off what a young hellion he is!" If one is tolerant enough to accept this interpretation of the attitude of youth, one takes much less seriously the bad things that are told about the younger generation and looks on their good qualities with increasing admiration. The present fashion for fathers and mothers to become friends with their children and to play games with them also is helpful; it does much to break down barriers that may exist between the two generations and to make mutual understanding a possibility.

Boys and girls at present face another serious difficulty. Normally a boy of 27 or 28 marries a girl of 22 or 23. After college the boy used to find work to do and presently was able to afford matrimony, but today jobs are scarce and few young men get a normal start in life. This means, of course, that there is an abnormal amount of free time on the hands of the young people of both sexes. Perhaps in the long run this phenomenon may prove advantageous, for it affords intelligent young people an opportunity of becoming better educated. Those of us with daughters do well, if we can, to encourage them to finish college rather than to regard a successful "coming out" as the aim of existence. I know nothing more demoralizing to a spirited girl than the wastage of time likely to occur between the time she leaves school and marries. The length of this gap is unpredictable, but the chances are that it will last for at least five years. She can spend the time most happily by doing something constructive. In college she comes in contact with a freedom that she has not encountered in school, with many different kinds of people whose existence she never imagined and with advanced studies through which she can learn to use her brain to full advantage, all of which is good for her.

Each generation at some time finds itself midway between old age and youth, irked on the one hand by the conservatism of its elders and on the other by the radicalism of its youngsters. Those of us who now find ourselves in that position have a good deal for which to be thankful. Teachers and doctors, among others, have done much toward making American life the exciting adventure it now is. Certainly the mental and physical education of children is much more efficient than it was, and the product is better. No one knows what may happen in the future. It seems reasonable to predict, however, that no matter what happens, fathers and mothers will continue to be amazed at their children until these children in turn become bewildered by the conduct of children of their own.

Ewing Galloway

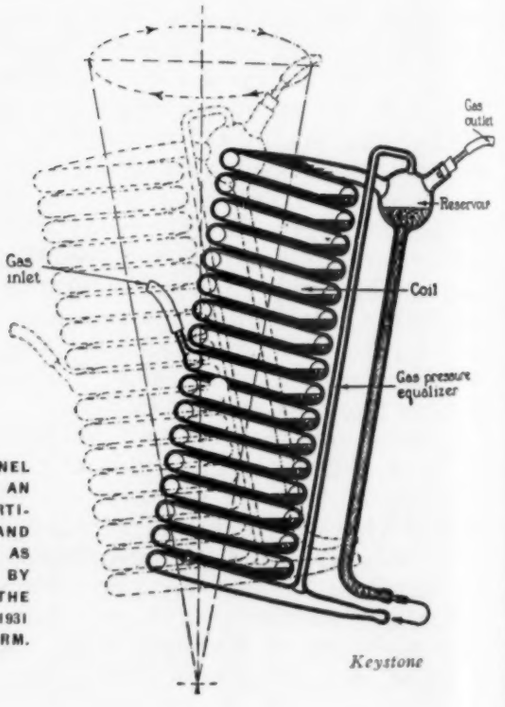
IN ANCIENT CHALDEA, REFRIGERATION WAS ACCOMPLISHED BY STORING FOOD IN VESSELS SUCH AS THIS ONE, WHICH HAS BEEN UNEARTHED IN THE RUINS OF A HOUSE IN UR.

Soibelman Syndicate

S O S PHONE STATIONS ARE A BOON TO TRAVELERS IN THE SWISS ALPS. SIGNS ALONG THE HIGHWAYS DIRECT THEM TO THE CLOSEST BOOTH, WHICH CONTAINS NOT ONLY A TELEPHONE BUT A LIST OF THE NEAREST DOCTORS, POLICE STATIONS, GARAGES AND REPAIR SHOPS.

Keystone

IN A STATUE RECENTLY UNVEILED AT CHICAGO IN THE COURT OF THE COLLEGE OF MEDICINE, UNIVERSITY OF ILLINOIS, EDOUARD CHASSAING, SCULPTOR, DEPICTS MEDICAL SCIENCE PROTECTING HUMANITY FROM DISEASE AND FROM DEATH.



Keystone

THE PROBLEM ON WHICH DR. ALEXIS CARREL AND COLONEL CHARLES A. LINDBERGH COLLABORATED, THE MAKING OF AN ARTIFICIAL HEART AND LUNG, WAS SOLVED BY PLACING ARTIFICIAL BLOOD IN A COIL OF GLASS SET ON A REVOLVING AND ROCKING TABLE WHICH CAUSES THE BLOOD TO CIRCULATE AS THE COIL WAVES ROUND. THE LUNG EFFECT IS OBTAINED BY ADMITTING OXYGEN THROUGH THE TUBE AT THE LEFT. THE APPARATUS THAT IS SHOWN IN THE DIAGRAM WAS MADE IN 1931 AND IS THE PROTOTYPE OF THE PRESENT PERFECTED FORM.

Satisfy Your Child's Book Hunger

By

ALMA H. JONES

ABRAHAM LINCOLN obtained his education through reading books in a log cabin by the firelight. William Gladstone, a great orator and statesman, born the same year, was graduated from aristocratic Eton College and Oxford University, the acme in English culture and education.

Today, Eton school boys commit Lincoln's Gettysburg address to memory, and his letter to Mrs. Bixby hangs on the walls of Gladstone's own college, while Gladstone's writings are read only by historians. The boy Lincoln, who said, ungrammatically, "The things I want to know are in books; my best friend is the person who gives me a book I ain't read," became the outstanding example in all history of the self educated man.

The story of Lincoln gives the cue: satisfy the book hunger of your child. In this, as in any other undertaking, the beginning is an important consideration. Therefore this story starts with the young and tender age, "for that is the time when desired impressions are most readily received," according to the ancient but not outmoded Plato.

"Books are to the mind what sunshine is to the body," implies that just as the well cared for child receives daily sun exposure as an aid to physical growth, so also he should receive early "exposure" to lullabies, rhymes and stories, which constitute early aids to mental and emotional growth.

Lullabies have been called the child's first stories because the rhythmic singing voice attracts attention and brings pleasure to the very young child. Rhymes, such as the Mother Goose rhymes, repeated over and over again "ad nauseam" are next in order.

There need be no concern over the latest tunes or rhymes, for the time tested tunes and the familiar rhymes probably are the best. Many good editions of "Mother Goose" are available. The "Real Mother Goose," illustrated by Blanche Fischer Wright, contains many favorite rhymes and is profusely illustrated in color. "Little Mother Goose," illustrated by Jessie Wilcox Smith, is an attractive and inexpensive edition with contents carefully selected to include only authentic Mother Goose rhymes. It contains many action pictures in lovely color, an aid to early art appreciation. The book is a convenient size for young children to handle successfully.

"BOOKS ARE TO THE MIND WHAT SUNSHINE IS TO THE BODY." EARLY "EXPOSURE" TO GOOD BOOKS, LULLABIES, RHYMES AND STORIES WILL AID MENTAL AND EMOTIONAL GROWTH.

Very early the child needs to establish right attitudes toward books. By the time a child is 15 or 18 months old he can easily learn to handle a book without tearing the pages, if the paper is strong and the pages are not too large. In order to teach the child the proper care of books the adult should plan to be with him until the book is safe in his hands.

The book is opened with slow movements, the pages being laid down carefully; small hands that make swift movements are restrained. As the child learns to turn pages carefully the mother smiles and speaks her approval, "celebrates success" as for any other accomplishment. Giving children only indestructible books will not give them experience in handling books with care. This is a point to consider in deciding for or against indestructible books for small children.

Children of 18 months, and often younger, enjoy pictures in which familiar objects and events in daily life are portrayed. There are an increasing number of picture books on the market at the present. Some of these are books of excellent photographs, made up in attractive permanent book form, in both expensive and inexpensive editions. "Baby's First Book,"

Ewing Galloway

THE STORY HOUR IS A TIME OF DELIGHT, OF PRESENT PLEASURE AND PERMANENT VALUE. IT STIMULATES THE YOUNG BOY OR GIRL TO MORE DIFFICULT READING ON NEW SUBJECTS.

which may be purchased for a dime, is a worthy example of this type of book.

Innumerable new picture-story books, "stories without words," are on the market. Through many action pictures, often line drawings colored in mass color effects, the child may read his stories almost without benefit of language. In this he repeats the history of the race, using pictures to express or to gather thought from others. No longer is it necessary for children to have the "comics" as their only source of picture enjoyment. Some of the publishers of encyclopedias have shown rare good judgment in making their "reference" books for children storehouses of excellent pictures.

An excellent example of the newer type of picture-story book is "Angus Lost" by Marjory Flack. In subject matter and illustration it appeals strongly to the littlest "readers." The story concerns Angus, a Scotch terrier. There is an element of surprise and humor in the pictures of "Angus Lost" that offer a fine substitute for crude comics. These modern books are the direct descendants of the first book for children, which was written about 1500 A. D. and was called a horn book. This book consisted of a sheet of vellum, covered with transparent horn under which were written the alphabet, some religious teaching, the Lord's prayer and the Roman numerals. There were no illustrations, and handling of books by children was not permitted.

The child, introduced to stories through lullabies, rhymes and pictures, passes by easy stages to stories of the "me and mine" and the "here and now" type. Lucy Sprague Mitchell has written an excellent story book of this type, called "Here and Now Stories." Repetition and rhyme add to the appeal of this book. Many mothers attest the value of this book for children just out of babyhood.

At about 3 years the child's interest broadens to include a bigger and more complex world. The old-time tales portraying animals that have the same feelings as persons remain favorites. A good example of this type of story book is "Old, Old Tales Retold" by Frederick Richardson. This book contains eight tried and true stories, including "The Three Little Kittens," "The Little Red Hen" and "The Three Bears." All stories included are recommended in their entirety for children of this somewhat more advanced age. The illustrations are done in rich harmonious color. Because of its immense popularity with the little folk, librarians find this book difficult to keep in good condition.

As the child develops mentally, he becomes interested in more varied subjects, as flowers, rain, snow, stars and the moon; railroad trains, ships and airplanes; the story of milk, water or electricity; children and customs of other lands. "For the Children's Hour" by Carolyn S. Bailey is a compilation of classified stories of the various kinds enumerated. This book has been a favorite for stories to be read and told to children over a period of years.

Two rather new story books which include compilations of current stories for both younger and older children are "Told Under the Blue Umbrella," which appeals especially to the younger children and "Told Under the Green Umbrella," which contains stories of interest to older children. The stories included were selected by the library committee of the American Association for Childhood Education.

THE strong interest of young children in factual materials regarding the world in which they live has been recently discovered. This interest exists to a degree surprising to adults, who have been inclined to think that children care only for the whimsical or fanciful.

Studies recently made with different types of stories for nursery school children at Iowa State College indicated that children of from 3 to 5 years found considerably more enjoyment in stories of real life than in imaginary stories. Another study of first graders showed that these children were more interested in everyday life than in fairy or folk tales, which in the past have made up about 90 per cent of the material offered in regulation first readers. This is another reason why comparatively young readers find enjoyment in "books of knowledge" when these are artistically and appropriately written. Authors and publishers have not been slow to grasp the significance of these edu-

cational observations. Myths and legends are disappearing from first readers and from many of the books for youngest readers. Instead there are readers of the "Social Science" type, such as those developed by Helen S. Read, concerning everyday life subjects, such as boats, airplanes and grocery stores.

"MIKI" by Maud and Miska Petersham is a further example of the "fictionized fact" type of book. These artist-authors are native Hungarians. This book concerns their little boy, Miki, who goes on a trip to their native land. His many adventures, including "true to life" facts regarding Hungarian people, and the gorgeous colors of the book are a delight to older as well as to younger readers. "The Christ Child" by the Petershams is considered one of the finest books of its kind and one that should be in every child's library. The story is told in the words of the New Testament. The pictures are everything one could wish in feeling and interest as well as in art value.

While recent studies indicate that myths, legends and fairy tales do not properly belong in the kindergarten or first grades this does not mean that such material should be excluded. The fanciful element for 4 and 5 year old children may be confusing since children of this age are trying to understand the world of reality in which they live. However, various childhood educators advise fairy tales "after the child has his feet on the ground." For this reason it is often wiser to withhold fairy tales, especially in quantity, until the child learns to read for himself; then the absorbing plot offers the child the incentive to read. With much practice in strongly motivated reading he masters quickly the mechanics of reading, which is essential to thought getting. In the same way, many educators recommend tales of adventure, romance and mystery, the lure of which is sufficient to cause older boys and girls to read in quantity. Some of the dime novels of the past, though of superficial value, may have served a useful purpose in impelling a boy or girl to read. One clever writer has said, however, that the only difference between the dime novels of the past and some of their counterparts today is one dollar and ninety cents.

Dr. C. K. Judd, a well known educator, has shown that the ease or rapidity of reading determines the rate with which one gathers thought from the printed page. This point is important from the general education standpoint. For this reason, it is well not to be too "meddlesome" if a child temporarily spends a good deal of time on material which seems rather trashy, if that

Century-Allen

THOUGHT USED TO SATISFY BOOK HUNGER OPENS GATES TO LANDS OF PLEASURE AND PROVIDES KEYS TO WISDOM'S TREASURE.

material is not really harmful. It doesn't pay to be too calculating regarding "the good" of reading each book when children are reading and getting fun out of it. Possibly the greatest calamity that can befall the boy or girl is not to want to read at all. The reading diet, like the food we eat, should contain some bulk or roughage as well as concentrated foods.

Though considerable emphasis is placed on the importance of children of school age reading for themselves and in quantity this is not to be interpreted as ending the reading or story telling hour of parents and other adults. Through such means the young boy or girl may be stimulated to more difficult reading on new subjects, because the parent or adult interprets through voice or explanation much that otherwise would be lost by the child who does not read easily. For example, a 7 year old will enjoy Kipling's "Just So Stories" when they are read to him. A year or two later he'll probably seek out such stories to read for himself. Many of the simple classics, books of natural science, poetry, history or biography may be covered in this way, in the hope that the books will be read later from choice. After sensing this value in a regular story hour one mother said, "I used to think that reading or stories meant only passing pleasure to the children; therefore it was omitted when, for any cause, it was inconvenient. Now that I realize the permanent value to the children in reading or story telling, as well as the present pleasure, the story hour is observed as faithfully as are meal hours."

A FEW books that are typical of those which may be used in introducing children to many fields of knowledge are "A Child's History of the World," "A Child's Geography of the World" and "A Child's History of Arts," all written by the late V. M. Hillyer, a leader in the progressive education field; "Picture Book of Travel" (Berta and Elmer Hader); "Wild Animals I Have Known" (E. T. Seton); "Abe Lincoln Grows Up" (Carl Sandburg); "Life Story of Birds" (E. F. Daglish); "Burgess Flower Book for Children" (T. W. Burgess), and "Magic Music" (Fannie Buchanan). "Full Steam Ahead" by Harry B. Lent and "America Travels" by Alice Dagleish are new travel books. "Treasure in the Little Trunk" by Helen F. Orton and "Calico Bush" by Rachel Field are new books of historical fiction by experienced writers for children. "Heidi" by Johanna Spyri is considered one of the most nearly perfect of childhood books of fiction, dealing with children and customs of other lands. "Earth for Sam" and "Stars for Sam" by William Maxwell Reed are excellent examples of a new type of natural science book which is both authentic and entertaining.

Boys and girls in their teens invariably enjoy stories of school life, popular science and accomplishment when told with humor or with an underlying plot of adventure, romance or mystery. They will not seek such stories in lurid sensational magazines if they are available in red-blooded books. The teen age wants fact as well as fiction. Well written books of nonfiction for young people, as for adults, are best sellers. The type of material required has been well summarized in the observation, "What we want in books for young people is what we want in books for ourselves—life in all its variations, and art in all of its forms." Such books are invariably interesting, informative, "true to life" and generally wholesome and well written.

"The Three Musketeers" by Alexander Dumas and "Huckleberry Finn" by Mark Twain are examples of red-blooded books which have stood the test of youth's approval as well as of adult approbation over a long period of time. Both of these books were included in William Lyon Phelps' recent list of the fifteen finest novels of all time. "Young Fu" by Elizabeth Forman Clark, the story of a young Chinese boy, and a true picture of Chinese life, is a recent Newberry prize book for youth. "Round About America" by Anne M. Peck and Enid Johnson, "All The Ways of Building" by L. Lamprey and "Boys' Life of the Wright Brothers" by Mitchell V. Charnley are examples of the variety of appeals in well written books for youth of the present day.

The books for various ages and interests already discussed are typical of many others that might be classed as "good" books. The general characteristics of a good book have been listed in the following description: "One that pleases the eye; printed in large clear type; an uncrowded page, with many paragraphs and much conversation. It has a gay cover with a story telling picture, since the cover often makes the first and most lasting impression. It tells a lively tale, and has many items that sustain the reader's interest from cover to cover." The "spot light" in a good book is always thrown on the hero who upholds law and order and who is honorable.

THE books already mentioned have special qualities of authorship, illustrations and construction in keeping with these standards. "The Right Book for the Right Child" is a helpful book to aid one in selecting books for individual children. The book recommends many books for various ages and interests and gives a thumb-nail sketch for each one. It was published in 1933 and has the authority of the American Library Association. Local librarians can give valuable aid to parents and others in helping children to make books their good friends.

Thought used in satisfying the book hunger of children will open gates to lands of pleasure and provide keys to wisdom's treasure.

What's Behind the Label?

By LEE D. CADY

ONE DAY a widow woman went bumping down the basement stairs. She was neither killed nor severely injured. So with some grunting and groaning she dragged herself back up the stairs, took a very hot bath and attended to her bruises by applying a well known salve to the places where she thought it might do the most good.

Of course the lady was stiffened and sore the next day despite the hot bath and salve, and there was something else plaguing her. She itched and burned where the bruises were. When she rubbed or scratched, her bruised muscles protested painfully. When the aching parts were massaged, itching and burning started. The predicament made her exceedingly nervous and irritable. Meanwhile her young children suggested that it might be just as well to call in a doctor.

The moment the doctor came into the room he detected the characteristic odor of the widely advertised salve but thought nothing more of it just then. Proprietary medicine makers have a way of inspiring confidence to the extent that laymen often feel anxious and insecure unless their product is in the family medicine chest. This particular salve was in almost every home the doctor visited. Not caring to labor too strenuously against the tide of opinion and suspecting that the salve was practically harmless, he had often acquiesced when his patients had insisted on using it. He set about to examine the patient's injured back.

The doctor poked about with a gentle fastidious finger to locate the sore spots. The poor woman's back was literally covered with what appeared to be the annoying results of rubbing poison ivy leaves on susceptible skin. What salve had been used? Oh, yes, he thought he had detected the odor. Was she positive that was what had been used? She was, and she showed him the container. She insisted that she had used it many times before for cuts, burns and bruises, and it had never made her the least bit uncomfortable.

Very well, but had she ever taken a prolonged hot bath, scrubbed herself with soap, and then used the salve? Yes, and nothing like this had ever happened. Well, had she ever done all that and then gone to bed with continuous hot applications to her skin, such as that hot water bottle? No, but could it be the doctor was thinking the hot water bottle had made her skin that

ONE DAY A WIDOW WOMAN WENT BUMPING DOWN THE BASEMENT STAIRS, BUT SHE WAS NEITHER KILLED NOR SEVERELY INJURED.

way? Why, the hot water bottle had been in the family for years, and it had never harmed any one's skin. She told the doctor quite emphatically she was not so much interested in the cause of her distress as in the cure and urged him to attend to that as quickly as possible.

AFTER a lapse of almost a year the same lady came to the doctor's office complaining of a skin itch which had been disturbing her sleep and was present in a half-dozen places. When the doctor examined her skin he found that the lesion was not the same this time for it consisted of little scattered points of inflammation, probably due to the presence of an irritating chemical which had found its way into the mouths of the sweat glands or into the hair follicles. Moreover, the skin was drier than normal and was rather harsh to the touch.

Knowing that he must again try the woman's patience with curious questions, the doctor asked, "Do you believe that cleanliness is next to godliness?" She did. "What soap do you use and how often?" Dingle-Do's soap had been vigorously used every day of the calendar; that is, since she had seen this remarkable soap

KNOWING THAT HE MUST AGAIN TRY THE WOMAN'S PATIENCE WITH CURIOUS QUESTIONS, THE DOCTOR ASKED, "DO YOU BELIEVE THAT CLEANLINESS IS NEXT TO GODLINESS?" SHE DID.

advertised in a magazine about a year previously. The manufacturer claimed that doctors were enthusiastic about its good qualities. She had always thought it was an excellent soap, and she had been using it so long she was positive in her own mind that it had nothing to do with the skin rash.

Of course the doctor tried to prevail on the lady to renounce the use of her sacred soap, or any other soap, for just one week. Since the request seemed to horrify her the doctor relented enough to permit her to bathe daily if she would agree not to use Dingle-Do's soap and either to take a soapless bath or to use another kind of soap every second or third day, being careful to rinse her skin thoroughly.

The rash disappeared. And the moral to this rather fable-like story is this: Do not think because you have once used powerful antiseptics without harm that you may safely use them on every occasion.

HERE is another story about a patient who puzzled his doctor for a day or so. He took a long drive in the country in late March. The air was warm and clear. The car windows were open, and the unaccustomed exposure of his face to the wind was rather pleasant. His eyes began to smart and burn a little, but he thought it was due only to eyestrain. Near the end of the day he drove a bit too far off the road while passing another car, and his own car stuck in the mud.

The man got out to look the situation over. He finally decided that if he could get enough sticks under his wheels, he could get the car up onto the road under its own power. He gathered some dead brushwood and accomplished his purpose, not suspecting what was to follow his adventurous day.

That night he took a hot shower-bath and scrubbed himself vigorously with soap. He felt much soothed and satisfied after his jaunt until early the next morning when his sleep was disturbed by the burning of his face and the itching of his hands. He thought little of it until after he had started working. His discomfort was increasing. His right hand and the inside of his left wrist had broken out in a rash. Then he hunted up a mirror and saw that it was just as bad or worse on the left side of his face and neck and around the mouth and nose. He went immediately to a doctor for help.

THE eruption on the skin resembled a dangerous condition known as erysipelas. The man was told what to do for himself and went home. Because he did not have fever and because erysipelas does not usually start in three rather widely separated areas of the skin, he was not put to bed.

The next day the skin was in such a condition that the diagnosis of dermatitis venenata could be made, but it was difficult to account for such a disorder at a season of the year when plants were not growing. A careful survey of the events which occurred on the drive and the following night was made, step by step.

While the man drove the car the left side of his face and neck was more exposed to the wind than the right side. He had picked up the brushwood with his right hand and held it in his left arm. He had worked without gloves. The parts of the skin most likely to be irritated by friction would, therefore, be the left side of the face and neck, the back of the right hand, and the inside of the left wrist. The season of the year virtually eliminated poison ivy as the cause, yet the patient had dermatitis venenata. That name used to mean poisoning by poison ivy, but it now includes poisoning by various chemicals.

Had the patient used a new kind of soap when he had taken that soothing hot shower-bath? No, it was the widely advertised Dingle-Do soap which every one had been using at his household for several weeks. The doctor advised him to discontinue using it. He explained that he had seen similar cases of so-called poison ivy dermatitis in other individuals who were enthusiastic users of the soap. The condition of the face, hand and wrist improved promptly.

A week or so later the man came in with more little patches of dermatitis between his fingers.

Had he stopped using that soap? Yes, certainly, but he wondered whether there could be something wrong with his blood, or just what was the trouble? He was rather frightened. Well, persisted the doctor, had that soap been entirely removed from the household? No, but he himself had stopped using it. Very well, insisted the doctor, if that particular brand of soap were removed entirely from the house, the skin troubles would cease. Other persons in the home had been getting the soap on faucets and other fixtures. The patient had then transferred it to his own hands in minute amounts, and it had quickly irritated his skin, which had been sensitized by the previous severe attack.

It happens that both Dingle-Do soap and So-and-So's salve contain powerful antiseptics, chemically related but not identical. On two occasions the lady had unwittingly broken down her skin's natural defences to these irritating drugs and had suffered the consequences. The man had done likewise. In the first instance the lady may have been poisoned by both the soap and the salve she used. The return of the disorder was undoubtedly caused by her conscientious fear of being unclean, and a rather more moderate use of this "strong" soap might have left her unscathed. The same was true in the case of the man.

In justice to Dingle-Do soap it should be pointed out as a good enough soap for anybody who is not sensitive to the antiseptic used in it. The great majority of persons who use it do not have any resulting symptoms. Nevertheless, if the antiseptic in the soap should be rubbed into the pores of the skin and not rinsed out well, it would cause skin irritation in any one.

Other drugs may do curious things to the unsuspecting person. A nurse who knew she was rather intolerant to quinine internally put some hair tonic on her scalp. She was horrified to find that she soon had a bright purplish eruption on her arms and legs. The cure was easy. She stopped using that particular hair tonic, which gave no indication on the label that it contained quinine.

Hair dyes are not new. Some years ago the federal government forbade the use of certain agents in hair dyes because so many persons were being poisoned severely. The scalp, face and hands of one woman became masses of swollen, encrusted flesh as a result of the use of a hair dye containing one of these dangerous substances. Many persons have been blinded by the indiscriminate use of such cosmetics.

Some drugs taken internally have been known to cause skin lesions. There are several brands of widely advertised laxatives which contain phenolphthalein. The drug is generally harmless enough when taken properly, but it may cause eruptions in persons who have an idiosyncrasy for it.

Some of the popular medicines bought over the drug counter for insomnia will cause skin disorders. One druggist treated himself in this way until he was going around in mental circles. He could not sleep because of his skin condition, which was getting worse because of the medicine he was taking in order to sleep. Finally the problem was taken out of his hands, but it was more than a month before he recovered from the effects of the drug and returned to work.

There is good reason to suspect that some of these drugs for insomnia may cause serious poisoning of the white blood cells of the body, a disease known as agranulocytic angina. Such facts, however, do not stop counter-prescribing by some unscrupulous druggists or the wagging tongues of helpful souls who assume the responsibility of giving apocryphal advice to credulous friends.

"IF THAT PARTICULAR BRAND OF SOAP WERE REMOVED ENTIRELY FROM THE HOUSE," INSISTED THE DOCTOR, "THE SKIN TROUBLES WOULD CEASE."

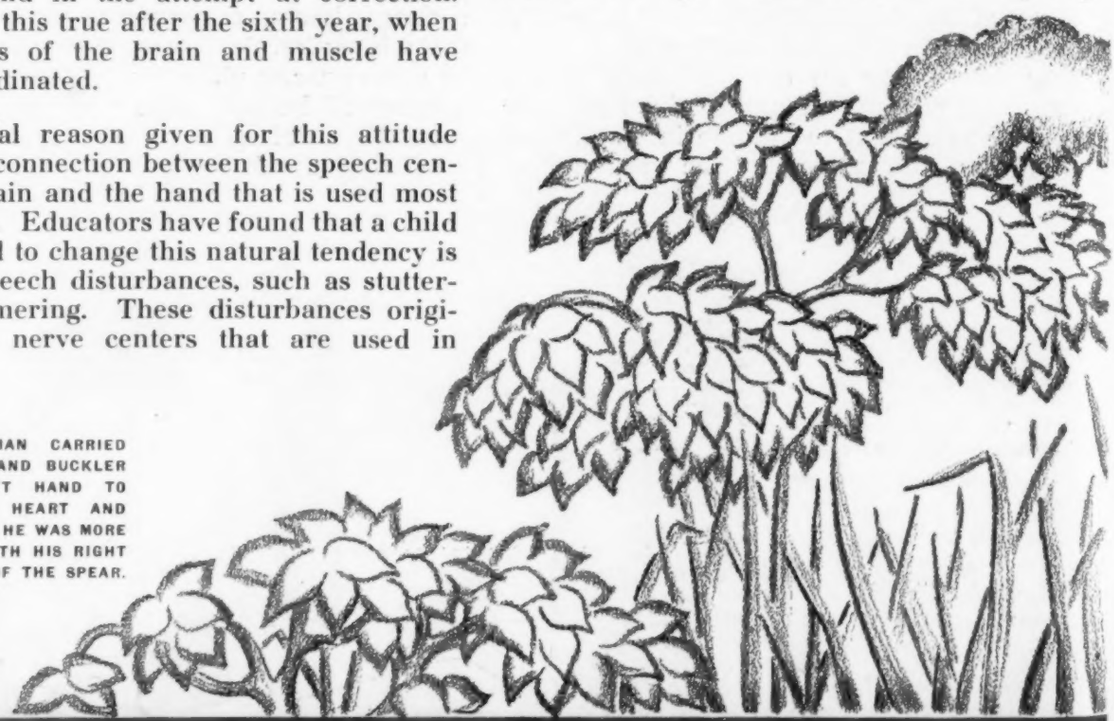
ARE YOU LEFT-HANDED?

SCIENCE is now giving the left-handed child a gratifying amount of belated attention and has proved beyond reasonable doubt that this puzzling trait follows the mendelian law of inheritance. This means that two left-handed parents will have left-handed children; two right-handed parents of mixed right and left-handed parentage will have one left-handed child in four. Therefore it seems that there are destined to be a large number of left-handed children in the world. But is this the misfortune that at first thought it seems to be?

This, of course, is a debatable question and was suggested to me by the actual success achieved by some modern young mothers who are training their left-handed youngsters to be ambidextrous. This course seems logical, for there are many vocations and arts that are adapted to an equal command of the two hands. Sculpture, the playing of many musical instruments, typewriting and other mechanics come under these heads. But can the training in ambidexterity be accomplished without undue effort or too much mental strain? Many educators think that it can, and they are of the opinion that it is the wisest course to pursue. Several progressive psychologists and reputable physicians claim that it is far more advisable than to force a left-handed child to use only his right hand in the attempt at correction. Especially is this true after the sixth year, when the functions of the brain and muscle have become coordinated.

THE principal reason given for this attitude is the direct connection between the speech center of the brain and the hand that is used most conveniently. Educators have found that a child who is forced to change this natural tendency is subject to speech disturbances, such as stuttering or stammering. These disturbances originate in the nerve centers that are used in reading, writing and speech. These are normally located in the left side of the brain, and there is usually more activity present in the left than in the right half. This unique inequality in the two opposite portions is due to the physiologic fact that the nerve fibers from the left half cross to the other side of the body at the base of the brain and are distributed to the right leg and arm, while the nerve fibers from the centers in the right half of the brain cross in a like manner to control the entire left side of the body. Thus, the half of the brain that serves the most active side of the body is obviously the most highly developed, and as most people are right-handed and right-sided the activity in the left half of the brain predominates. Consequently, tradition has been built up to assume that power and efficiency belong normally only to the right hand and right side, and the idea has even been carried into the classroom. Thus tradition, handed down through the ages, has a powerful influence in promoting the idea that children should be taught to use the right hand even though an inherited characteristic causes the left to be naturally more skilful.

THIS social law of right-handedness has always been in effect. In the Bible we find, "I shall give my right hand," "Thy right hand shall holden me up," "The Lord is at my right



PRIMITIVE MAN CARRIED HIS SHIELD AND BUCKLER IN HIS LEFT HAND TO SHIELD HIS HEART AND NOT BECAUSE HE WAS MORE DEXTROUS WITH HIS RIGHT IN THE USE OF THE SPEAR.

An Article in Which HELEN FARNSWORTH Shows That Left-Handedness May Be an Asset

hand," "Thy right hand shall find out those that hate thee," and "Thine own right hand can save thee." But in an old book by Frank Hamilton Cushing, we are told that primitive man carried his shield and buckler in his left hand to shield his heart and not because he was more dextrous with his right in the use of the spear.

IN THE Italian "Primitives" the Madonna is painted carrying the Child, usually on her left arm, presumably in order to leave her right arm free for action or defense. A famous exception to this is found in Raphael's Madonna and Child. Another significant exception to the superiority of the right hand is seen in the work of Leonardo da Vinci, splendid artist and engineer of the Renaissance, who was so thoroughly left-handed that he wrote all his secret formulas in a script that no one could read without the aid of a mirror. Strangers believed that this type of writing was deliberately cultivated to obtain secrecy, but his friends declared that it was a natural instinct, caused by extreme left-handedness.

THUS it is seen that these variations in the dexterity of the hands mean nothing in regard to mentality or physical skill. Neither is left-handedness a sign of poor vision; it means simply that the child has reverted to the use of the cells of the right half of the brain which, usually, are not so active.

However, this is no brief for the cultivation of ambidexterity. My desire is to extend a word of encouragement to those mothers who are both puzzled and worried by what they consider an abnormal tendency in their children. By all means teach the youngsters to shake hands with the right hand, for otherwise unpardonable awkwardness would result. But when they are very young don't admonish, "use your right hand, dear"; for their brain cells, which should not be overtaxed, are learning to coordinate, and that is a full-time job at best!

OBESITY, the Open Door

The action takes place in a modern drawing room in the home of Mrs. Normalweight, where tea is being served informally to a group of women between the ages of 40 and 60.

MRS. UNDERWEIGHT *(refusing a tea cake):*
No more, I thank you. *(She pauses, smiling.)* "A lean horse for a long race," you know.

MRS. WONTREDUCE *(taking her tenth cookie):*
That's a good joke. "Laugh and grow fat" is a better slogan. *(She turns to Mrs. Underweight and addresses her directly.)* Why are you so particular about gaining weight?

MRS. UNDERWEIGHT:
It's a long story and hardly fit for tea table gossip, but if you want me to, I'll tell you.

ALL:
Yes, please do.

MRS. UNDERWEIGHT:
My earliest recollection of my father was that of a rather jovial but much overweight individual. At about 50 years of age he rapidly lost weight and became a victim of diabetes, which subsequently, through hardening of the arteries and heart disease, caused his death.

to Diabetes

A Play in One Act

By

THOMAS HODGE McGAVACK

"UNTIL THIS YEAR I HAVE NEVER TAKEN MY OVERWEIGHT SERIOUSLY; BUT THE FASHIONS HAVE BEEN SO EXACTING THAT I CONSULTED MY PHYSICIAN SOME WEEKS AGO. 'WHAT IS ADDED TO THE WAIST-LINE IS TAKEN FROM THE LIFE-LINE' IS HEREAFTER A MAXIM FOR ME."

Our family physician insisted on examining all of us children from time to time for early evidence of the same disease, for he told us that one out of every four known diabetics came from a family in which the disease had been previously found. This seemed particularly important in our household as an aunt on my mother's side of the family was also a sufferer from the condition.

MRS. WONTREDUCE *(still munching cookies and drinking tea, interrupts):*
But what has that to do with your weight?

MRS. UNDERWEIGHT:
Just this. The likelihood of my having diabetes, so the doctor said, was much less if I avoided an excess of rich foods sufficiently to keep my weight about 10 per cent under the normal for my age, sex and height.

MRS. NORMALWEIGHT:
And by rich foods you mean—

MRS. UNDERWEIGHT:
Fats and sweets of all kinds. I have even had to limit the amount of bread and starchy vegetables I consume.

MRS. WONTREDUCE *(petulantly):*
But still, I do not see what overweight has to do with all this fuss about the possibility of your getting diabetes.

MRS. UNDERWEIGHT:
From much reading, I have discovered that of every thousand persons suffering from diabetes, approximately 75 were underweight, 150 had normal weight, and 775 were overweight. In other words, nearly 80 per cent of the diabetic patients were overweight at the time the disease began to develop, and two thirds of these were more than 20 per cent overweight.

MRS. WONTREDUCE:
Yes, but I am fat, and I certainly don't expect to get diabetes; there's been none in my family. *(She leans over the tea table and helps herself to a generous slice of chocolate cake.)*

MRS. UNDERWEIGHT:
Well—

MRS. OBESITY *(drawing her chair closer):*
Let me answer that. Eighty out of every thousand overweight persons become diabetic patients, and the tendency is greatly increased when one is more than 20 per cent overweight, as I am. This contrasts with the fact that only fifteen out of every thousand normal and underweight persons become victims of the disease.

MRS. NORMALWEIGHT:
My, what an encyclopedia you are! I never—

MRS. OBESITY *(interrupting and continuing):*
Yes, until this year I have never taken my overweight seriously; but the fashions have been so exacting that I consulted my physician some weeks ago. After several frank talks, I am convinced fashions are secondary. "What is added to the waist-line is taken from the life-line" is hereafter a maxim for me. *(She puts her teacup and napkin on the table most emphatically.)*

MRS. NORMALWEIGHT:
As I started to say a moment ago, I have never given the matter of weight a moment's consideration in my whole life. I eat when and as much as I please, and it doesn't seem to vary my weight at all. Why do I not gain?

MRS. OBESITY:
I asked the doctor a similar question, for as a matter of fact, my appetite is less than that of many of my acquaintances who have never shown a tendency to grow fat. Yesterday he gave me a list of the reasons for overweight. I have read them through hurriedly and don't believe I can repeat—oh, I know, I left that list in my purse. Shall I get it and read it to you?

ALL:
Please. *(Mrs. Obesity rises and leaves the room.)*

MRS. WONTREDUCE *(eyeing the sandwiches and cakes with an air of joyful anticipation):*
It seems to me, Mrs. Underweight, that you have gone to a great deal of trouble to avoid diabetes. Suppose in spite of your effort, and because of the presence of the disease in your family, you should have diabetes, would you then continue to keep your weight 10 to 15 per cent below the average normal?

MRS. UNDERWEIGHT:
Yes, I certainly would.

MRS. WONTREDUCE:
Why?

MRS. UNDERWEIGHT:
Well—I—I wish I could remember just what Dr. Blank has—

MRS. DIABETES *(interrupting):*
Pardon me, Mrs. Underweight, perhaps I can help you to enlighten Mrs. Wontreduce.

MRS. UNDERWEIGHT:
Of course, you should know better than I.

MRS. DIABETES:
First of all, the more we weigh, the more living tissues nature has to care for. Those of us who are diabetic patients know that every pound of excess weight calls forth an additional amount of "the messenger," insulin, already deficient in our bodies. Indeed, some overweight diabetic persons using insulin might be able to discontinue it if they were normal or slightly underweight. I remember reading one doctor's comment somewhat in this vein: "The need for insulin is related quantitatively to the body mass as well as to the quantity of food to be metabolized." I translate this into simpler language by saying the more food we eat and the more we weigh, the more insulin we need. Moreover, every pound of additional weight requires approximately one extra mile of small blood vessels. This means extra work for the heart, which must increase its efforts to pump the blood through the greater network of "pipes" present. This increased load on the heart predisposes it to more serious difficulty and perhaps to disease. Of course, extra fat also tends to be deposited in the heart muscle itself and thus acts mechanically as a hindrance to the work of the organ. I have discussed two of the dangers I myself have faced from overweight. I think they should be enough to make you realize just why I was so willing to reduce.

MRS. WONTREDUCE *(interestedly):*
No, no, please go on, if there is more to say. For the first time in my life I am sincerely interested. *(She puts her plate with the half-eaten cookie on the table.)*

MRS. DIABETES:
Very well. Fat predisposes to early hardening of the arteries. As I have already said, I was overweight when I contracted diabetes.

and I can never forget the doctor's very words, "With an excess of fat, diabetes begins, and from an excess of fat, diabetic patients die; formerly of coma, recently of hardening of the arteries."

MRS. UNDERWEIGHT:

Quite so. I remember that at least.

MRS. DIABETES:

Again, gallstones and gallbladder disease are twice as common in persons with my disease as in the community at large. Of the diabetics in whom such trouble develops, 90 per cent are greatly overweight.

MRS. NORMALWEIGHT:

I never before realized the trouble that may be caused by too much weight.

MRS. DIABETES:

That is not all. Overweight tends to increase the blood pressure, which, in turn, further embarrasses the heart in its work. Overweight lowers the resistance of our bodies to infection and makes diseases like pneumonia and boils more serious when we get them. Then too, the surgeons find more conditions, such as gallstones, demanding their attention in persons whose ability to stand surgery is less than the average. I should mention—

MRS. WONTREDUCE:

My, my, you are making me nervous. Don't tell me any more until I have talked with my own physician. Only I must ask, how can I tell how much overweight I am?

MRS. UNDERWEIGHT:

I learned a good rule for correct weight. Although it is not strictly accurate, I am told it gives one a rough idea. Your normal or "ideal weight" should be 110 plus five and one-half times the number of inches you are taller than 5 feet.

MRS. WONTREDUCE:

Maybe I'll understand better if you give me an example. For instance, I am 5 feet, 4 inches tall; so that my weight would be—

MRS. UNDERWEIGHT:

Five and one-half times 4 equals 22. Add 110, which makes 132 pounds.

MRS. WONTREDUCE:

And I weigh 162—30 pounds overweight. Phew! *(Mrs. Obesity reenters.)*

MRS. DIABETES *(turning to Mrs. Obesity):*

Did you finally find the slip the doctor gave you about reasons for overweight? I fear I have talked so much in the meantime that every one is ready to go home.

MRS. OBESITY *(showing a slip of paper):*

Yes, here it is. It was the last thing in my bag, as usual. Shall I read it?

MRS. NORMALWEIGHT:

Yes, of course you must. I for one still wonder why some stay thin and others grow fat, although they may eat the same amount of food.

MRS. OBESITY:

It is really very short. *(She begins reading.)* "Overweight may mean one of the following: 1. You eat more than the conditions of your life enable you to expend as energy. If this excess is but the equivalent of one pat of butter, it demands the muscular activity involved in climbing the Washington Monument to work it off. 2. The tendency to store fat may 'run in families.' People of such families cannot trust the instinct of appetite if they wish to remain normal in weight. 3. Following recovery from some diseases, the tendency to store fat increases. 4. Changes in certain glands of the body tend to cause an excess of fat retention. The physician may guide you in deciding which of these causes has produced your gain in weight and thereby direct you to the right corrective treatment. The treatment is in—"

MRS. WONTREDUCE *(interrupting):*

I thought you said that list was short. I really must go, for I want to phone the doctor about an appointment to discuss my own condition. *(Looks at her watch.)* Why, it is already 6 o'clock. Oh, dear, I am too late to do so!

MRS. DIABETES *(rising, followed by the others):*

I did not realize the time. We must all go. Well, goodbye Mrs. Normalweight. It was a lovely tea, and I am sure we have all learned a great deal this afternoon.

ALL *(in unison):*

We certainly have! We just can't wait for morning to talk to the doctor. Goodbye. *(They go out.)*

MRS. NORMALWEIGHT *(standing at the door smiling):*

I am so pleased. Goodbye.

(Curtain)

DIPHTHERIA—The BIG BAD WOLF

By

Samuel J. Crumbine

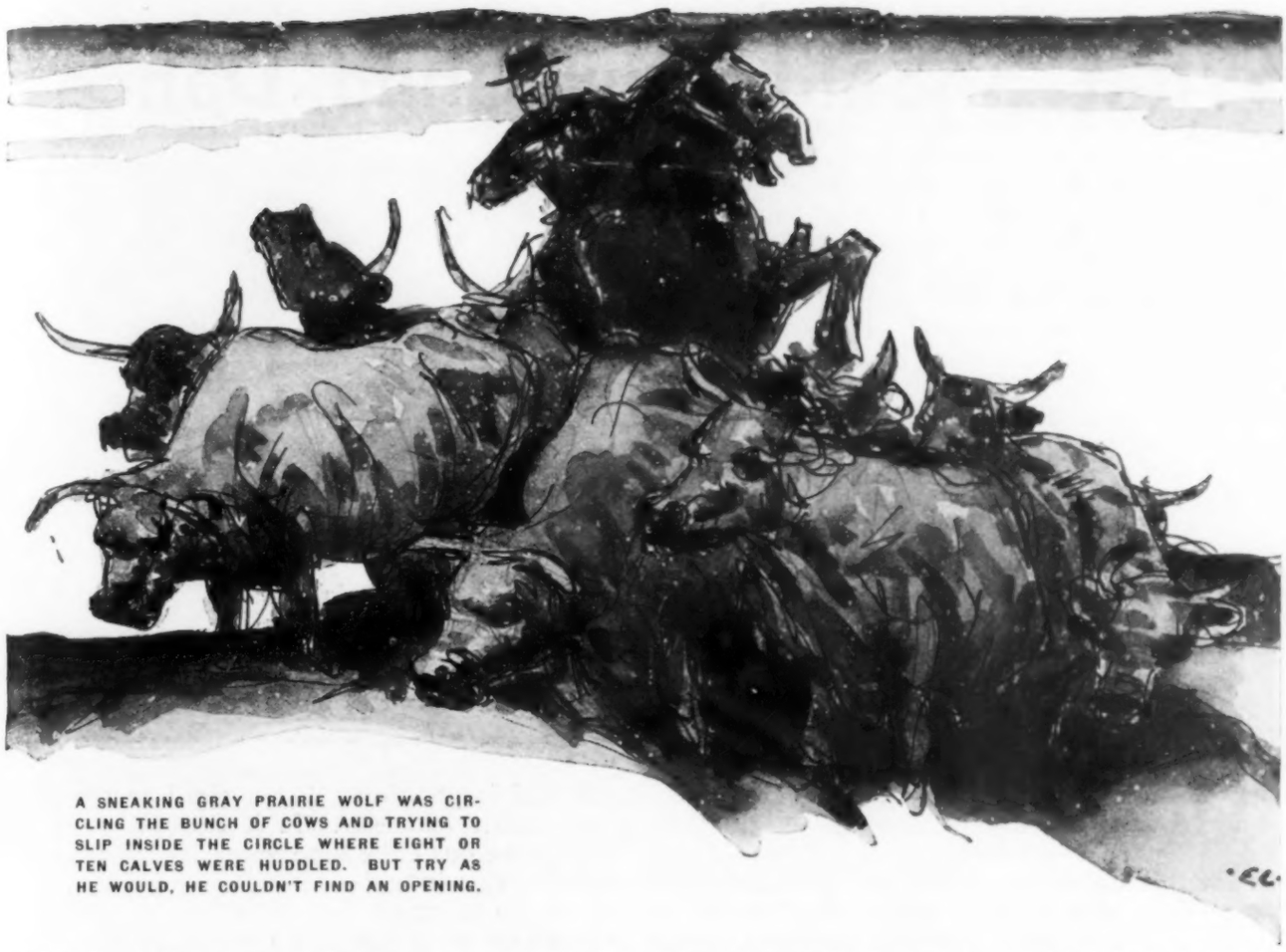
ONE SUMMER evening a good many years ago, I was driving through a large cattle ranch on what was then the frontier of southwest Kansas. As a newcomer from the East to that pioneer country I had learned to keep my eyes open. As a young doctor I was getting used to emergencies—from babies to bullets! But this evening everything was quiet. Suddenly I noticed a bunch of cows some little distance away. That in itself was not strange, but the cows seemed to be behaving strangely. They were drawn up in a close circle, heads pointing out, and every now and then one would charge with lowered horns and loud bellows at something I could not see. Out of curiosity I turned my horse toward them. The horse seemed nervous and reluctant to go, but I was determined to find out what was happening. As we drew nearer I saw what was wrong. A wolf, a sneaking gray prairie wolf, was circling the bunch of cows and trying to slip inside the circle where eight or ten calves were huddled. But try as he would, he couldn't find an opening. The cows had formed a protecting ring about their young ones and were using their horns—and their heads—to drive him off. I had no gun. In those days it was wiser for a neutral person, such as a doctor, not to carry one. Besides, I had my hands full, trying to keep my horse from bolting. So I could only watch. Suddenly one of the cows made a particularly vicious charge. The wolf whirled, but not quite fast enough. One of the cow's horns caught him and tossed him several feet. Whether it was that, or whether he also scented my presence, Master Wolf decided he had had enough. He turned tail and disappeared like a shadow into the neighboring bluffs. The protecting circle broke up, and the cows and calves calmly went back to grazing.

I have never forgotten that incident. Many a time when I heard the song "Who's Afraid of the Big Bad Wolf?" I thought of that prairie wolf and of the cows who were too much for him! And yet we talk of *dumb* animals! I wish all human beings had as much sense! I wish we could get together as unanimously as those cows, to protect *our* youngsters from the various "big bad wolves" that lie in wait for them.

There is one in particular to which I refer —that big bad wolf, diphtheria. Who's afraid of *him?* I can readily say who *ought* to be afraid of him—the father and mother of every child under 10 years who has not been immunized. Diphtheria killed some 5,000 children in the United States during 1934. Those 5,000 deaths were unnecessary. No child nowadays need die of diphtheria. Physicians know how to cure it. Better still, they know how to prevent it. It could be stamped out entirely!

If every mother and father realized the value of immunization, nine tenths of the work would be done. The biggest trouble, I think, is not indifference but lack of knowledge. During a recent antidiphtheria campaign in New York City, the city health department was besieged with letters and phone calls from parents seeking information. "What exactly is this immunization?" they asked. "Is it safe?" "Is it expensive?" "Is it permanent?" "Is it painful?" "Who does it, and where can I take my baby to have it done?" "Is 3 months too young?" "Is 10 years too old?"

What exactly is immunization? Immunization is a simple, inexpensive and practically painless treatment which can be performed equally well by the family physician or by the physician at the local child health center. It is merely the injection of a liquid into the child's arm. Immunity begins to develop a few weeks after the treatment, but it is not complete for several months. That is why the spring is a good time to immunize children. A child who is immunized in spring will be completely pro-



A SNEAKING GRAY PRAIRIE WOLF WAS CIRCLING THE BUNCH OF COWS AND TRYING TO SLIP INSIDE THE CIRCLE WHERE EIGHT OR TEN CALVES WERE HUDDLED. BUT TRY AS HE WOULD, HE COULDN'T FIND AN OPENING.

tected by fall, when diphtheria is most likely to occur.

What is the best age to immunize a child? Immunization should be done between the ages of 6 months and 12 months. Up to 6 months the vast majority of infants are naturally immune. From 9 months to 3 years, practically all children are susceptible to diphtheria. From 3 to 10 years, about half of all children are susceptible. From 10 to 15 years, less than one-fourth are susceptible, but the danger still exists. The best thing, therefore, is to take no chances.

I have heard parents say, "What's the hurry? Wait till Johnny starts school, and then we'll have him immunized." There is no excuse for such an attitude. It is unfair. It is dangerous. Of all the cases of diphtheria that still occur, 50 per cent are in children under 6 years old. Is it wise to wait till school age? Immunize the school children by all means, if they have not already been protected, but don't make the others wait.

There is one other point that I think parents do not always understand. A child who has had diphtheria and who has recovered is not always safe from another attack. Only immunization can really protect him.

Public health authorities have figured that if 60 per cent of the children in every community were immunized there would be no fear of an epidemic of diphtheria. Every mother who takes her child to be immunized is helping to reach that percentage. She is realizing her responsibility not only to her own child but to all children. She is proving herself a thoughtful, cooperative member of society, a good citizen. But if only 60 per cent of children are immunized, there will still be 40 per cent who have not been protected. What about those children? Are they to run the risk? One isolated case is enough to bring anxiety and perhaps sorrow to at least one family. Sixty per cent of immunizations will protect the community, but only 100 per cent will protect all children.

Immunization against diphtheria is simple; it is not expensive; it is not dangerous; it is complete protection, and it is necessary, if children are to be safe.

All over the United States, doctors, parents, teachers, health officers, women's organizations and others interested in child health are making plans to immunize children who have not yet been protected. I have no doubt there is some such plan in *your* community. Do you know about it? Are you giving it your support? And above all, are you planning to take your own child to be immunized? Are you planning to help drive off, once and for all, the "big bad wolf" of diphtheria, not only from your own doorstep but from the doorstep of our American home?

What Should Your Child Dance?

By
LUCILE MARSH

Part II

STUDY OF THE FOLK DANCES OF THE WORLD IS ONE OF THE MOST ENJOYABLE AND CULTURAL PARTS OF DANCE TRAINING AND SHOULD BE CONDUCTED ONLY BY A TEACHER WITH A RICH, AUTHENTIC BACKGROUND IN THE GENUINE FOLK DANCES OF THE NATIONS.

"WHAT about toe dancing for children?" mothers from New York to San Francisco have asked. Toe dancing is now absolutely forbidden for children. The toe point, which took many generations of dancers to develop into its present virtuosity, is the last trick of technic that an adult dancer adds to her style. Not only is it far too difficult for children, but in attempting this arduous feat immature little muscles and tendons are put under such a strain that they generally collapse, leaving the child with weak, unhealthy feet the remainder of her life.

It must be remembered that in Europe where the toe point was perfected it was superimposed on many years of arduous daily training which developed the feet into veritable structures of steel. Americans, however, are temperamentally unsuited to any long systematic preparation. Because of our "get rich quick" philosophy we apparently want everything, including toe dancing, by some speedy short cut. Conscientious teachers know this cannot be done in toe dancing and will explain the situation to mothers. Those teachers who agree to put the child on her toes either do not know their business or do not care how much they harm the child as long as they are paid to do it.

"But isn't ballet dancing all right if the child does not attempt toe dancing?" some one always suggests. The answer is an emphatic "no," for the whole ballet system is unsuited to children both psychologically and physically. The ballet is a mature professional system that is rich in wisdom and art for the advanced student; but to the child it is boring, artificial and thoroughly beyond comprehension. In fact, it is almost a physical impossibility for a child to do ballet movements correctly. Is it sensible to waste these precious childhood years by forcing difficult feats on immature minds and bodies, when there are so many important technics a child can study with joy and success at this time? Parents might as well expect children to study algebra before they learn simple addition and subtraction. The study of ballet dancing must be postponed to the teens. Don't be worried if a European dancing master argues, "But then, it will be too late ever to dance really well. Ballet dancing must be begun when the child is young."

Modern science has proved this old-world theory fallacious. If a child wants to be a toe dancer she will have a much better chance for success if she spends her youth mastering other valuable dance technic and does not weaken her feet and develop sway back and heavy legs trying to do what her childish body and mind cannot master.

AFTER several years of barefoot dancing the child's natural posture should be easily erect and the movement free, rhythmic and thoroughly graceful. The body should show a subtle, symmetrical strength and an unconscious precision and coordination in all its movements.

Up to the age of 6, boys and girls enjoy the dancing class together, although the boys should dance a stronger, more masculine motivation than is given to the girls. For instance, if the class is interpreting the flight of birds, the boys may be eagles or hawks and should be urged to be vigorous and cleancut in all their movements.

However, when the boys begin to feel their masculinity too strongly they should be taught in a separate class, preferably by a man teacher. In this class they will want to do American Indian dances, Greek pyrrhic and other classics of male dancing. However, before long they should be studying the folk dances in connection with their school work in geography and history. The boys and girls will usually dance these together, but that will be determined by the customs and manners of the country they are studying. This study of the folk dances of the world is one of the most cultural and enjoyable parts of the dance training and should be conducted only by a teacher who has a rich and authentic background in the genuine folk dances of the nations. When children dislike folk dancing, it is because the teacher is getting cut-and-dried steps out of a book and does not teach her subject as the vital joyous expression it is.

THERE is a tendency in the public school systems to put the teaching of the dance into the hands of the teachers of physical education. Many of these teachers have not had sufficient specialized study in the dance. Being athletes rather than artists at heart, they are apt to teach the dance as a gymnastic routine rather than as a thrilling art experience.

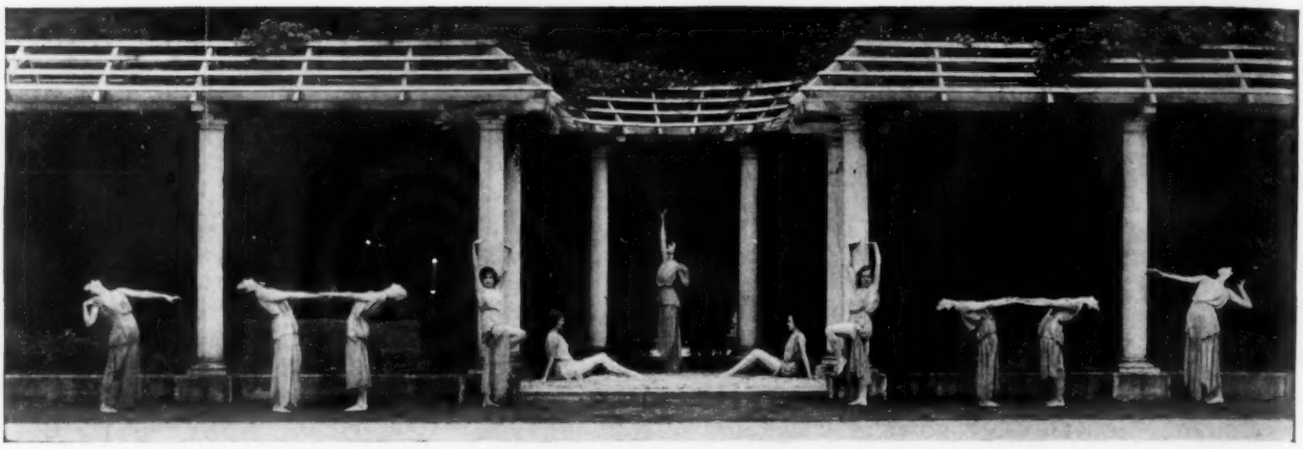
In the fifth and sixth grades, boys and girls should be taught ballroom or social dancing. After years of experimentation, authorities at Horace Mann School, Columbia University, have decided this is the ideal time to begin this important class. At this age, children are able to accomplish easily all the necessary steps. As yet, they have no adolescent self consciousness of the opposite sex, and they are not too young to learn the reactions which they will need on social occasions throughout life. Incidentally, mothers should not leave this important aspect of a child's dance education to pick-up methods. A bright child may be able to learn the ballroom steps without definite instruction, but the steps are so small a part of the valuable training and social contacts of the ballroom dancing class that wise mothers will include this class as an indispensable part of the social education.

The modern social dancing class is conducted like a party or dance, and the children learn naturally to take part graciously in all aspects of the social occasion, including receiving lines, Paul Jones, cotillions and elimination dances. They learn to manipulate favors, punch, refreshments and prizes; in short, they become familiar with everything they will meet in the real life party. It is interesting that our great-grandmothers' dancing classes were advertised as practice balls because this function was to prepare the young people to acquit themselves with distinction at the real ball. This is still the function of the social or ballroom class. If the children fail to enjoy their real dances; if your daughters are wall flowers, and your sons hilarious stags, blame their dancing teacher. The solution of wild parties, unpopular girls and irresponsible boys lies in the correctly conducted dancing class. Besides developing both boys and girls into attractive ballroom dancers the class should teach them the responsibilities of host and guest and should cultivate in them a genuine desire to share good times. In the sixth grade of one modern school the children plan their own parties and conduct them with great skill and enthusiasm. They dance fox trots and waltzes, and they tango in the most approved style of the season, enjoying it immensely. The teacher interests herself in their outside parties, helps them with their plans and often drops in to prove her interest.

During junior high school the class should continue as a weekly social evening with general dancing after the instruction period. In senior high school it should be almost completely a social evening with an instruction period now and then to keep the students up to the minute in their steps. Contests for the best teams, trickiest original steps and most clever party are all valuable in keeping up the interest and the standards of this group.

Many dancing teachers have lost their leadership with the young people because they do not keep up with the times. No girl or boy of today will stand for Victorian formality with the stiff bows, the white gloves and the waltz steps of the mauve decade. They want the latest steps,

BOYS ENJOY DANCING GNOMES, ELVES AND SUCH ROGUISH CHARACTERS. IN THIS DANCE THEY MAY DO SOMERSAULTS, CARTWHEELS AND OTHER SIMILAR DEVELOPMENTAL STUNTS.



THERE ARE MANY BEAUTIFUL IDEAS FOR CHILDREN TO DANCE, MANY REFINING AND ELEVATING CONCEPTS FOR THEM TO DRAMATIZE.

the smartest clothes and the newest party ideas. Bored children are always hard to manage in the dancing class. To hold the attention and respect of this alert generation, good manners must be based on the same sporting philosophy that the children uphold in their sports and games. Mothers should choose an up-to-the-minute social dance class, one that will really help children to be social successes at their own parties. This means the teacher must be a 1935 model too, and able to charm the students into accepting her leadership.

Tap dancing comes next in the chronological dance course. Of course, tap dancing is really a combination of the folk forms, known as Irish step and clog dancing, the Negro shuffle and jazz. The recent fad for this type of dancing can be traced chiefly to the popularity of professional Negro dancing. As a matter of fact, tap dancing has much to recommend it in its rhythm, gaiety and speed, and the children do enjoy it. It is one of the few types of dancing that boys consider free from "sissiness." Children learn it most readily around 10 years of age, although under certain favorable circumstances they may pick it up at an earlier age. However, most children under 8 years of age find it boring and discouraging. In tap classes, too much stamping and heavy foot work should be guarded against as it is hard on the arches. The best tappers are never guilty of heaviness; they are, in fact, as light as thistledown on their feet, and their stamps have the clear click of a castanet. The greatest weakness in tap dancing as a form of good education is the objectionable repertoire of demimondain gestures it has acquired as a background for the steps.

This brings us to the whole problem of dance content. It is difficult to understand how a mother can calmly allow her children to make gestures that she would blush to explain. If mothers realized to what an extent the children's dances influence their thoughts and feelings, I am sure dances would be censored much more carefully. Dances which dramatize the spitting street urchin are certainly not elevating; neither are apache dances which teach the gestures of the lowest dives in Paris. "Hotcha" numbers, unauthentic Hawaiian wiggles, suggestive high kicks and voluptuous oriental movements certainly cannot develop our daughters into finer, more sensitive and discriminating women.

"But the teachers give children these dances. What can we do?" say many mothers in defense.

When I flay the dancing teachers for such dances they reply, "But the children want those dances, and at the recital the parents clap and laugh loudly at just such numbers."

There are so many beautiful ideas for children to dance, so many refining and elevating concepts for them to dramatize that a parent or teacher who encourages the use of such objectionable themes as motivation in the dancing class must have low ideals, indeed.

In discussing the subjects for dance expression, the so-called modern dance must come in for its share of criticism. Of course, the modern dance is a frank expression of our mechanical, metropolitan life. As such, it has philosophic interest and even artistic significance. But the greatest impetus that this modern dance cult has had comes from defeated, distraught postwar Germany. With a few exceptions this style of work is taught in this country by German teachers and their followers.

In a recent dance survey of this country it was found that few communities, with the exception of several large cities, are even conscious of this phase of the dance. The modernistic dance class did not present a real problem until it was discovered in the same survey that physical education departments of schools and colleges throughout the country tend to superimpose this type of dancing on the school children to the exclusion of more educational forms. This is not surprising when it is realized that dancing in the schools is in the hands of athletic women who have had little dance training or ability.

The greatest criticism against the modern German interpretation is the neurotic quality of its themes. Fear, sorrow, frustration, hate, greed and even insanity are the emotions with which it deals for the most part. Black is usually the color of the class costume, and primitive instruments supply the accompaniment. Can a dancing class of this type teach children the positive, creative attitude toward life?

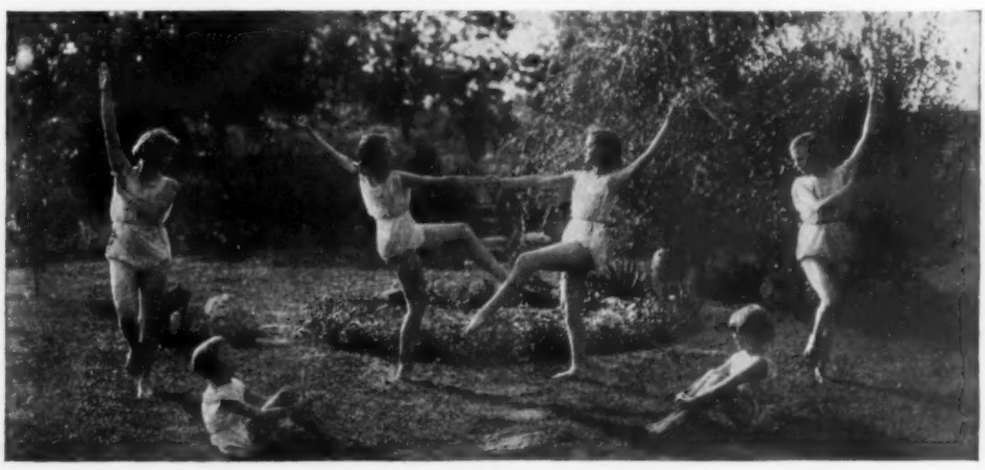
The technic of the modern dance movement is extremely methodical, vigorous and cleancut. It develops exact, angular and forceful movement which is much more suited to the masculine than to the feminine ideal. I myself believe the dainty, graceful girl is more attractive to both men and women than the tense, athletic Amazon. Tragically enough, this type of dancing is always more popular with the large vigorous girls who so desperately need a type of dancing which will soften them down, adding grace to their blatant muscularity.

A DISCUSSION of dancing would not be complete without mention of the dance recital, ballet or whatever the closing dancing school program is called. The modern educational attitude is one of enthusiasm for a satisfying culmination to any course of lessons. If the lessons have been properly planned and systematically mastered, something worth while should result. There is nothing so dear to a child's heart as participation in a beautiful closing program which allows him to show his accomplishments to parents and friends. Too many teachers use the closing recital not as an educational device but as an advertising project to attract more pupils for the following year. Mothers should refuse to allow their children to be relentlessly drilled and rehearsed for the sake of "putting on a good show." Long and late rehearsals in a tense, emotional atmosphere wear down a child's nervous and physical resistance to a dangerously low point. Fear of making a mistake, envy of another child's superiority, a desire for limelight and an opportunity to "show off," are all unwholesome reactions to inculcate in any child.

Another important requirement of the closing recital should be that it does not encourage the child to become stage struck. The theater may be controlled by neurotic, undisciplined men and women who build up a fake glamour around a tawdry and even sordid existence, in order to further their own ends. With several hundred girls for every little job, those in charge have all the bargaining power on their side, and they never fail to use it. The teacher who lures pupils into her dancing classes by guaranteeing stage careers is promising something she cannot deliver even if it were a desirable reward she was offering. A wise mother will protect her children from such a teacher if she wishes to protect their peace of mind and emotional integrity. Mothers of the educated and cultured class have begun to realize the unwholesomeness of the Broadway appeal and have refused to patronize schools which feature the theatrical atmosphere. Sometimes mothers hope to better the financial and social condition of the entire family by exploiting their children. Of course, there are also a few neurotic mothers in better social groups who are attempting vicariously to live out their own suppressed desire for careers in the limelight by pushing their children into the theatrical profession. It can be truthfully said to the credit of most American mothers, however, that their chief interest in dancing is as education and recreation to make their children healthier and happier. They realize that the art of living is the greatest of all arts and that a gorgeous human being is the greatest masterpiece.

Dancing can be a valuable addition to the art of living and a real factor in the development of healthy, beautiful, happy children. It can, in fact, be a wholesome recreation throughout their lives. Mothers must insist on standard makes of dancing as they do on approved brands of foods. They must also demand that their children be taught this standard dancing under the most idealistic conditions by teachers who are trained educators and worthy artistic and social leaders of boys and girls.

Mothers, it is up to you!



DANCING CAN BE A VALUABLE ADDITION TO THE ART OF LIVING AND A REAL FACTOR IN THE DEVELOPMENT OF HEALTHY, BEAUTIFUL, HAPPY CHILDREN. IT CAN, IN FACT, BE A WHOLESOME RECREATION THROUGHOUT THEIR LIVES.

HYGIENE of the EYE

Chapter XIII of

The Eye Book

By

HYMAN COHEN

NO EXTRA TASKS, SUCH AS MUSIC, SEWING AND SPECIAL STUDIES, SHOULD BE IMPOSED ON NEARSIGHTED CHILDREN.

WHAT ARE the conditions within one's power of control, the things one should do and the things one should not do, in order to preserve good eyesight throughout life?

Granting that visual defects have been properly corrected and that there has been no damaging disease or accidental injury, even then there are other factors and circumstances on which the maintenance of good and efficient eyesight depends. There are many conditions and influences which a mere "do" or "don't," or a series of these, does not command. They are far-reaching things of vital import, of many degrees and compounded of many influences.

First and foremost of these influences is the general health, including freedom from devitalizing undercurrents and deeply implanted disease tendencies. The reference in this connection is not to the definitely sight-injuring conditions, such as disease of the kidney, diabetes and definite infection from pus sources. The reference is rather to the general tone and tenor of bodily health, which is so subtly and detrimentally influenced by disturbed metabolism, disordered digestive function, the lesser grades of undernourishment, disturbed thyroid function, susceptibility to fatigue, the vice of overplayed or flagging nerves in neurasthenia, overindulgence in food, drink and the sex life, and a host of other deleterious influences that unbalance the general health and affect the quality, comfort and lifelong durability of sight.

To go into greater detail would require a treatise on general hygiene. Let it suffice to say that each of these adverse bodily states individually, and all the more so when several operate collectively, is an influence which works for poor and difficult eye function. It may be put down as a general and obvious truth that a healthy eye can exist only in a healthy body. Obvious, too, is the implication pointing to general hygienic living and bodily care.

Progressive shortsightedness with its inherent tendency to grow worse during the growth and school period requires special hygienic care.

The eyes should be reexamined frequently. Glasses should be worn constantly. The general health is exceedingly important; this includes proper diet and sleep as well as play in the open air. School tasks should be shortened as to time and amount. No extra tasks, such as music, sewing and special studies, should be imposed on nearsighted children.

Good print in the books that are read, proper light and proper posture are important. If the myopia is of high degree and still progressing, removal of the child from school for a year and freedom from studies and close range tasks of all kinds are imperative. Sight-saving classes are maintained in the larger cities for those whose sight falls below a certain level. Obviously certain occupations are unsuitable for persons with a high degree of myopia. These include proofreading, accounting and any occupation that requires the use of the eyes at close range.

THE eye functions, or does its work, at two distances, far and near. In distance vision the eye is at its more natural poise; scarcely any effort seems to be involved, unless one is engaged in watching or searching intently. Ordinarily distance vision can be maintained through the waking period of the day, relief from the strain of constancy being afforded by shifting the gaze a little or momentarily closing the eyes.

The situation is different when the eye is doing work at close range. Reading, sewing and setting type are work; the eye is not merely looking. In such occupations the eye must be riveted to one definite point at a range that requires the constant use of the accommodation. The eye is no longer at poise; instead it constantly calls on the nerve and muscle mechanism to sustain it and to compel it. Even when the work is routine and well grooved by habit, the eye should have short periods of rest to break the strain. When the work is particularly taxing, the eyes should not be used for more than two hours at a stretch. This applies to reading and especially to studying, because in addition to the tiring of the eyes there is also brain weariness which in itself makes the eye less fit.

Any overworked organ rebels and hits back in self defence by producing a sense of discomfort that varies from tiredness to extreme pain and an upsetting of the entire body. In the case of the eyes the rebellion against overuse is manifested by a heavy, strained sensation, by drowsiness, involuntary closure of the lids and a "blown out" feeling. It is best to stop before that stage is reached.

There is also the correlative consideration of the world's work, the kind of gainful work man has to do. In this respect most persons can exercise little choice, yet some consideration should be given this phase, both by selecting the kind of work and by making the conditions under which it is done suitable.

To put the eyes at best advantage, there are a few rules which should be observed. When the work requires reading, a fair sized print on mellow, agreeable paper should be provided. Proper posture should also be considered. When those who use glasses read in bed, the adjustment between the center of the eye and the center of the glass is upset, and visual bewilderment and strain are produced. This is especially true when bifocal glasses are used in this manner. In the sitting position, too, when bifocals are used, the reading matter should be held below the eyes and not on a level with them or above them.

There should be good ventilation, freedom from dust, smoke and irritating gases in shops and factories.

Seats and desks in schoolrooms should be adjusted to the height of the children so that the erect sitting posture may be maintained and the habit of tilting the head to one side may be avoided. For this reason, vertical script is considered best.

ABOVE all there is, of course, the matter of light. Light is the medium in which the eyes work, as air is the medium in which we breathe. Light should be sufficient in quantity, free from glare, evenly diffused and properly directed—from the left and behind for right-handed persons and from the right for left-handed persons. When an increasingly stronger light is required for reading, it is an indication that reading glasses are necessary.

Of the five sense organs, the eye is the most positive announcer that it is time to sleep. Sufficient sleep is the universal and only harmless "eye opener." Enough cannot be said of its value for the eye and for the general health. The eye will not stand for short rationing in sleep and at the same time stand up to the needs of the day. The eyes keep watch and know when their owner should go to bed.

The use of tobacco in any form, and indulgence in alcohol at the same time, when carried on for many years may produce definite deterioration in sight. This defect is more pronounced in some persons than in others. Those who are susceptible should be careful.

The drift of civilization is becoming a whirl. The moving picture, the automobile, the airplane, the on-and-off blaze and glitter and carousal of electric signs, the many things on the counters and in the windows of shops all call excessively on the eye and the nervous system of which it is a part. The eye is learning to adapt itself, but it is best not to tax it to the point of intolerance. Tomorrow is another day.

[NOTE.—This is the concluding chapter of "The Eye Book." The first chapter appeared in the August 1934 issue.]

THE MYSTERY of the RED-FACED MAN

Chapter IV of THE DOCTOR'S SCOTLAND YARD

By Robert A. Kilduffe

IT WAS Inspector Carey who first described the clinical laboratory as "The Doctor's Scotland Yard." But in recalling the conversation in which Dr. Trebor first compared disease with the criminal and the clinical pathologist to the detective, I am sure that neither Carey nor I appreciated the aptness of the comparison until Trebor had spun for us the yarn about "The Case of the Gloomy Babies" and followed it with "The Mystery of the Blue-Blooded Lady."

If we were surprised that disease could be so interestingly personified and that its complexities could be described in pseudofictional fashion, I know that Trebor was even more surprised that we took so much interest in his tales. Having proved his point, however, as both Carey and I agreed, he was almost amazed to find us not only willing but eager to listen to as many more of these laboratory adventures as we could persuade him to tell us.

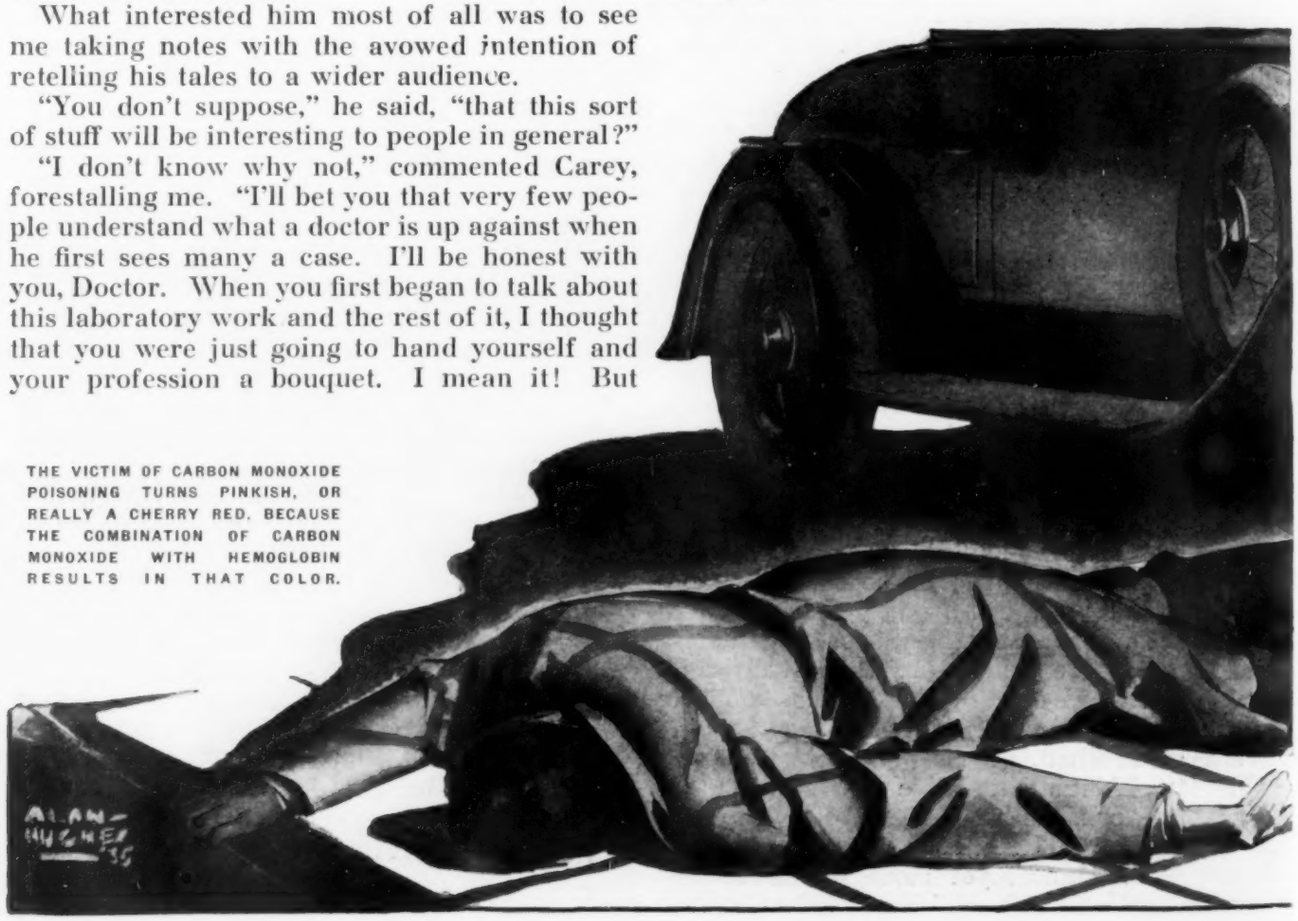
What interested him most of all was to see me taking notes with the avowed intention of retelling his tales to a wider audience.

"You don't suppose," he said, "that this sort of stuff will be interesting to people in general?"

"I don't know why not," commented Carey, forestalling me. "I'll bet you that very few people understand what a doctor is up against when he first sees many a case. I'll be honest with you, Doctor. When you first began to talk about this laboratory work and the rest of it, I thought that you were just going to hand yourself and your profession a bouquet. I mean it! But after you told your stories, or whatever you call them, I began to see that I really didn't understand this part of the medical profession at all. I can see now that what I used to think was more or less a lot of bunk, that is, this laboratory work that seemed simply to make my bill bigger, really had a lot to do with the case. If I'm interested in these tales there are sure to be others who will be, too."

"Perhaps you are right," said Trebor. "I know that there is many a patient who wonders why a doctor can't fix him up without all the expense for laboratory work. That's the reason why it isn't done many a time when it should be."

"Here's one who won't kick," I said. "Believe me, if ever I get any sort of illness that the doctor can't make head or tail of by the usual methods, and he doesn't find out what the laboratory has to say about it, well, I'll very likely get another doctor."



THE VICTIM OF CARBON MONOXIDE POISONING TURNS PINKISH, OR REALLY A CHERRY RED, BECAUSE THE COMBINATION OF CARBON MONOXIDE WITH HEMOGLOBIN RESULTS IN THAT COLOR.

"Don't worry," said Trebor, laughing. "You won't find many doctors today who neglect laboratory studies in a puzzling case."

"Don't forget another thing," I added. "Your tales have given me a new and a much more intelligent slant on disease. Some of these board of health regulations I used to wonder about seem more reasonable now. There'll be no argument from me from now on. Even though I don't see the reason for them I'll know there is a reason! And, if I have to know it, I can always find out from you, you know."

"Oh, I'll be glad to add to your education any time," he replied with a sly grin.

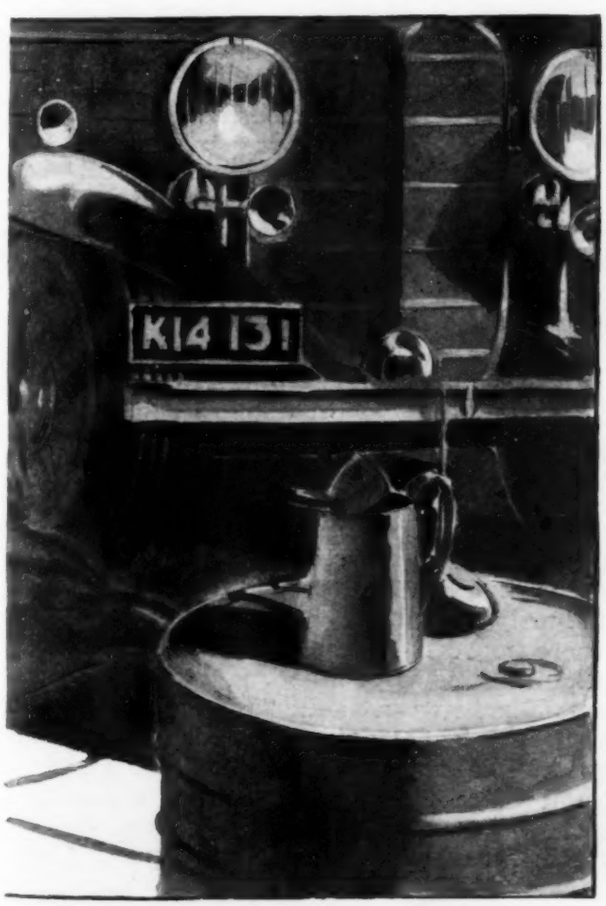
"I'll take a little too," Carey said. "How about telling us something tonight? Got anything up your sleeve?"

"Well," replied Trebor, "it happens that I saw a case today for a check-up examination that might be interesting to you. Suppose we call this one 'The Mystery of the Red-Faced Man.'"

"Sounds good," said Carey.

"Start when you're ready," I added.

"About a year or so ago," he began, "a certain doctor I know stopped in one morning to discuss some laboratory studies I had made on a case under his care. I never knew him well, but I remembered him because of his bluff, hearty, well nourished appearance. Somehow he made one think of the picture of John Bull.



He was a heavily built, red-cheeked chap, the hare-and-hounds type of English squire like old Mr. Wardle."

"Who on earth was he?" inquired Carey.

"Wasn't he in 'Pickwick Papers'?" I asked.

"Right!" Trebor replied. "If you look at any old English hunting print you'll know the sort of chap I mean. However, if it had not been one of those blustery days of early January I don't suppose I would have had this tale to tell. But he did come in on such a day, and his appearance was so striking that, at first, I was not quite sure who he was. For his face had a most peculiar and striking dusky red, almost purplish color, and as he dropped into a chair he seemed quite short of breath."

"'Whew!' he gasped. 'Strong wind today—sort of takes your breath away.'"

"'It certainly seems to have taken most of yours, Doctor,' I replied, for he was puffing like a fat man after a race.

"The purpose of his visit, as I have said, was to talk over the laboratory studies on a patient of his. As we talked I noticed that, while his extreme shortness of breath, known as dyspnea, became much less, it did not entirely disappear. Enough remained to give an impression of hurried utterance, as it were. His color underwent a change too; but while the suggestion of a purplish congestion went away, he still remained an exceedingly red faced man.

"Now it may sound peculiar, but the fact is that doctors are prone to disregard in themselves things they would at once investigate in their patients. I learned later that while these things I have described had been occurring for some time and had even been gradually becoming more marked, he had never paid much attention to them.

"Always a hearty and an active man, he recalled that for perhaps a year or more he had been somewhat annoyed by a change in the rhythm of his breathing which gradually became more and more rapid and puffy. While he had always had a good, healthy color, as the popular saying goes, he admitted on questioning that his face and hands had gradually become even more highly colored than usual and that this was now practically a constant condition. As his practice was in an outlying suburb he attributed this color to exposure, especially as he was, moreover, an outdoor enthusiast in his leisure time."

"If a red face is a bad sign," interjected Carey, who was decidedly ruddy, "I must be in a bad way."

"Many people would be glad to be no sicker than you are, Inspector," Trebor replied, smiling. "No, this sort of redness is a very different thing, with a definite suggestion of cyanosis."

"What might that be?" I asked.

"Cyanosis is a term derived from the Greek word *cyanos*, meaning blue," he replied. "I'll

tell you more about it later. To get back to the case: among other things the doctor had a kind of throbbing headache now and then, accompanied by a sensation of fulness in his head. He remembered having occasional dizzy spells too, and once in a while there was an aching in his legs which he attributed to too much golf. That's practically the whole story and about all the clues that could be had from the history."

"Was he a big, fat man?" I asked.

"I wouldn't call him that," Trebor replied. "He was a heavily built man, perhaps a little overweight, but not excessively fat. Why?"

"Well," I answered, "if he wasn't fat he must have had heart disease. Those two types get short of breath, I believe."

"Yes, they do. But unfortunately for your reputation as a diagnostician, this man did not happen to fall into either of the categories."

"Never mind him," growled Carey. "Go ahead with the story. What did you find when you went over the scene of the crime?"

"I see you haven't forgotten our term for the physical examination in these adventures," laughed Trebor. "That, of course, was the next step. The scene of the crime showed only one clue—but an important one—a big spleen."

"Time out for explanations," I said. "And while you are putting the spleen in its place I'll fill up the glasses."

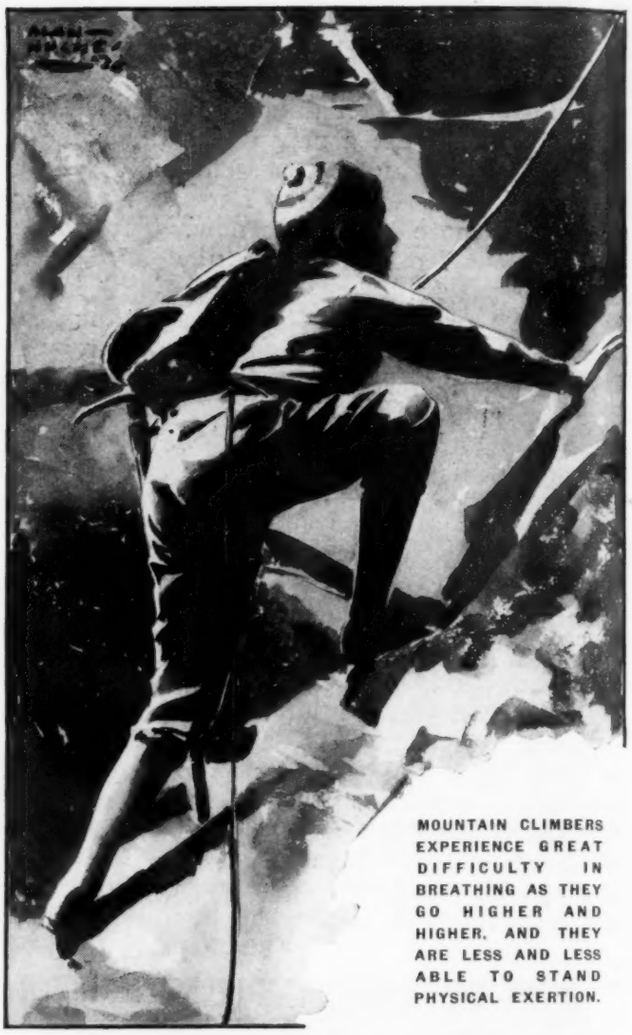
"Ordinarily," Trebor continued, "the spleen isn't a very big organ; but it is an important one, even though just what it does is a bit of a puzzle as yet. Normally, it is hidden up under the flare of the ribs on the left side of the abdomen, the place you fellows and many others speak of as your stomach. The spleen is a sort of quadrangular organ, generally dark and congested in color and not very thick. Usually it cannot be felt, although in this man it nearly filled the whole left side. Relatively speaking, it was enormous."

"What does it do?" Carey asked.

"Well, there's some argument about that," replied Trebor. "It is possible that it may have several functions, but the only thing we are sure of is that it is a part of the blood-forming system. Sometimes it is spoken of as the graveyard of the red blood cells."

"You mean they die?"

"All the body cells die and are being replaced continually," answered Trebor. "The red blood cells live only about a month. Of course, they don't all die at once, but their life cycle is only about thirty days, and then they have to be replaced by new cells. Apparently most of this destruction of red blood cells takes place in the spleen, which seems to act as a sort of storehouse from which at least some of the material needed for the construction of new red blood cells can be drawn as required. Possibly it has other functions too, but we need not bother about those."



MOUNTAIN CLIMBERS EXPERIENCE GREAT DIFFICULTY IN BREATHING AS THEY GO HIGHER AND HIGHER. AND THEY ARE LESS AND LESS ABLE TO STAND PHYSICAL EXERTION.

"So now we have all the available evidence for this case," I said.

"Practically all," Trebor agreed. "Oh, there were a few other little points in the history: nosebleed now and then, irritability of more than the usual degree and an increasing inaptitude for mental and physical work."

"If *that's* a disease—" I began.

"You were born with it," Carey finished the sentence for me amid our general laughter. "It's about time for Scotland Yard to step in, isn't it? Considering this fellow's big spleen and what you said about the graveyard, I think I'd want a blood examination."

"You'd be right on general principles, and especially in this case," agreed Trebor. "I don't remember whether I ever told you what a normal red cell count was, but it should be somewhere between 4½ and 5 million red cells per cubic millimeter of blood, and with that there should be between 85 and 95 per cent of coloring matter, or hemoglobin. This man had a hemoglobin content of 125 per cent and a red cell count of 9,750,000 red cells per cubic millimeter."

"He was certainly well over par," I said. "That sounds to me like much too much blood."

"Is there such a disease as having too much blood?" Carey asked.

"Yes," replied Trebor. "That is just what he had—polycythemia."

"What's the name?"

"Polycythemia, a hybrid word from 'poly,' meaning many; 'cy,' referring to cell, and 'emia' indicating a connection with the blood: too many blood cells."

"How in the name of Caesar's ghost do you get a thing like that?" asked Carey.

"There's only one thing wrong with that question," replied Trebor. "Nobody knows the answer. You see, the mere fact that your hemoglobin content and red blood cell count are a little high doesn't mean that you necessarily have polycythemia. There are a number of circumstances under which it can happen without the presence of this disease.

"For instance, if you had a badly failing heart the circulation would slow up and perhaps even stagnate in the smaller blood vessels, the capillaries, and as a result they would become crowded, even clogged with blood cells. When the doctor pricks your finger to take blood for a count, the blood comes from the capillaries, so the count might very well be higher than normal. Or, it could happen this way: Suppose I told you, Carey, that the chances are that most of the traffic squad have a red cell count higher than the average normal?"

"You don't mean that they have this poly-what's-its-name?" said Carey in amazement.

"No, indeed!" replied Trebor. "But they spend most of their time in an atmosphere of dilute automobile exhaust, don't they? Well, that mixture contains carbon monoxide which, when absorbed into the blood, forms a relatively stable combination with the hemoglobin. Did you ever see any bodies of persons killed from an auto exhaust?"

"Sure," replied Carey. "Suffocated, aren't they?"

"And, say!" I added, remembering my days as a reporter. "Their skin turns sort of pink, doesn't it? Was that what happened to your red faced man?"

"Carey will tell you that you should not theorize until you have all the evidence," Trebor smiled. "No, the victim of carbon monoxide poisoning turns pinkish, or really a cherry red, because the combination of carbon monoxide with hemoglobin results in that color. And the victims suffocate or, more properly, asphyxiate, because the business of the hemoglobin is to carry oxygen to the tissues and a waste product, carbon dioxide, away from them to the lungs where it is given off. Now, because the carbon monoxide combines with the hemoglobin and cannot readily be dislodged, the hemoglobin cannot do either of its jobs, and the victim asphyxiates. If you inhale only a little carbon monoxide, but you do that more or less constantly, you always have some red cells that are unable to transport oxygen and carbon dioxide. To make up for this interference with the normal function, you begin to make a few more red cells. As a result, although you have more than the average normal number, you still have only about the normal number doing business. That is what happens in the traffic squad, and that is why their blood count is often a little above the normal, especially where the traffic is always heavy."

"Would they be surprised to hear this!" exclaimed Carey.

"They won't be any the worse off if they never do," said Trebor. "You know the old saying about a little knowledge."

"Any other way to have this happen?" I asked.

"Yes," said Trebor, with a grin. "If you want a blood count above the average, live on a high mountain or go in for aviation."

"How come?"

"Well, if you remember any physics at all, you know the higher the altitude, the lower the oxygen tension; and the lower the oxygen tension, the more difficult is any attempt at gaseous exchange. If you have ever read any accounts of mountain climbing expeditions you'll remember that the thing that most often makes them unsuccessful is the difficulty the climbers experience in breathing as they go higher and higher, and also that they are less and less able to stand physical exertion. They often have severe nosebleed too."

"That's right," I said. "I remember that all the altitude records made in aviation were made with the aviator breathing from an oxygen tank."

"Exactly!" said Trebor. It is impossible to absorb oxygen easily from rarefied air; that is, under low oxygen tension. Now, if you were to live for any time at a high but not too extreme altitude you would have a similar but of course much less marked interference with your oxygen transport; and to make up for it you'd simply make a few more red cells, and so you'd have a higher blood count."

"Suppose I came down again?" I asked.

"Then your red count would go back to the usual normal figure. You would not need any more than that."

"Some machine, this human body!" said Carey.

"Yes, it's no wonder there are still things we don't know about it," agreed Trebor. "There's just one other cause for polycythemia. You know, you fellows started this," he added.

"Go ahead," said Carey, "I'm listening."

"Well," Trebor went on, "you can see, I hope, that everything which interferes with the pulmonary or lung ventilation might, for the reasons I have described, produce some change in the red cell count and the hemoglobin. Any

chronic lung disease or any chronic heart disease might do it to some extent and even to a marked degree. One rather peculiar condition, Ayerza's disease, produces a marked polycythemia. This is a condition in which, as a result of a sclerosis or thickening and hardening of the pulmonary artery, there is a marked interference with the lung ventilation. The pulmonary artery is the vessel that empties into the lungs all the blood that has traveled around the body and picked up carbon dioxide as a waste product. It really carries, therefore, venous blood which, as you may remember, is dark and bluish in color as compared to the blood that has passed through the lungs, absorbed oxygen and is now the bright red blood that flows through and from the heart. Because the pulmonary artery does not permit the blood to pass freely and because it is thick and hard and no longer elastic, there is a marked interference with the lung ventilation in Ayerza's disease. Consequently the lungs fail to give off the carbon dioxide from the blood and to absorb oxygen. In this case the arterial blood, which should be oxygenated and bright red, contains a mixture of venous blood that is full of carbon dioxide and of a blue color. As a result these patients are always rather dark and somewhat bluish in color, or cyanotic. Because there is eventually an involvement of the heart in this condition, the victims are sometimes referred to as black cardiacs."

"Any more?" said Carey.

"That seems to be about all I can think of now, anyway. Wait a minute, though; there are a few chronic poisons that act as irritants to the blood-making system and so increase the blood count."

"Such as—?" said I.

"Oh, mercury, radium, phosphorus, arsenic and so on," said Trebor.

"That's enough," I said. "I might have known that the list of causes would be as long as the name of the thing."

"Hold on!" laughed Trebor. "These things only cause a *relative* polycythemia."

"Meaning—?"

"Meaning that when you remove the cause you remove the polycythemia too; the count goes back to normal. My red-faced man had polycythemia vera."

"Good night!" said Carey. "Wasn't polycythemia enough of a name by itself?"

"If it makes it any easier," said Trebor, "you can call it the Vaquez-Osler disease after the men who first described *(Continued on page 823)*

There Aren't Any Ghosts!

SCIENCE UNMASKS SUPERSTITION

In the October Issue HYGEIA Carries On the Work of Dispelling Foolish Fears and Substituting Scientific Facts.

"The prevalent belief that a child is expected to go through a period of poor speech during a certain period of development has misled parents into a policy of hoping and waiting for the termination of the disturbing period of poor speech," writes *Bryng Bryngelson* in an article on speech problems and speech care, in which he discusses hereditary and congenital and developmental causes of speech disorders, and gives psychologically and physiologically sound advice on helping the child to overcome his speech difficulties and thus dispel one of the bugbears that sometimes accompanies a child into adulthood.

"Many a distressingly stout person laboring under a burden of excess fat uncontrollable by the strictest dieting, many a dull pupil the despair of parents and teachers, many a child presenting a problem of behavior at home, in school or among his playmates may be a victim of thyroid insufficiency which, if corrected, will produce a happy transformation." This is the encouraging message set forth by *Dr. Solomon Ginsburg* in "Prevention and Treatment of Goiter," the first of three articles on thyroid disease.

"Alice in Wonderland could solve her own problems of misfits in her environment in a magic world," writes *Alma H. Jones* in her article "Is Your House a *Home?*" Alice easily adjusted her size to circumstance. Not so with the child of today in a home unfitted to his needs. Children are delighted with Alice's ability to grow up in an instant to the circumstances she faces, and they will be entranced with arrangements that fit their home to them. It takes thought rather than money to make a house a home, comfortable and convenient for a young person living in an adult world; but the required investment of time and thought will bring abundant returns in harmonious living, and the simple, effective suggestions given in this article will help to bring in those returns with amazing promptness.

"Fit your feet and not the other person's eye. . . . Keep your back flat and your feet arched. . . . Cramping your feet will cramp your natural style." These are a few of the "footnotes and pedigrams" found in *Dr. Philip Lewin's* article "Your Child's Feet," in which he gives the causes of foot troubles and outlines the proper care and treatment.

Is coffee harmful? What is a moderate intake of caffeine? Who should avoid the use of this stimulant entirely? These questions are considered in a paper, entitled "Caffeine and Health," in which *Alfred Gilman* presents a detailed summary of the observations of scientific investigators who have made a study of this vexing problem.

PRIMITIVE MEDICINE

By Raymond B. Cowles

PART II

IN CONJUNCTION with those remedies for the more common diseases that were described in part I of this article, there are a host of miscellaneous practices which have as their basis superstition. As a matter of fact, superstition seems to be the most important ingredient of the Zulu pharmacopeia and may explain the success of many of their remedies. Generally speaking, most medical treatments are based on the mechanism of the body for the control of disease, plus confidence on the part of the patient and ameliorative treatment. The Zulus have splendid bodies. Add to this the absolute confidence engendered by a thorough belief in their superstitions, and one can readily understand that even if the treatment given is of little use or even harmful, the patient will probably pull through and live to thank his doctor.

Although this faith in superstitions is of great importance, no doubt at least a few of the native remedies have some intrinsic value. For instance, oil extracted from the adipose tissues found near the gonads of a large lizard, the Nile monitor, is used as a cure for earache. The oil is applied while warm, and if any bland oil is beneficial, it is probable that this one would be equally so. Unfortunately, in this as in many other instances, superstition is closely tied in with sound ideas, for the same oil and that of another nearly related species, *imBulu, Varanus albigularis,* are thought to be perfect preventives of lightning stroke. Such a practice is doubtless fully equal in efficiency to our own time honored custom of setting chair legs on an insulator during a storm or keeping doors and windows closed to prevent a draft of air from carrying lightning indoors.

A rather interesting item on the Zulu lists of remedies is the nightjar, a bird that is closely related to our whip-poor-will. The pulverized body of this species is supposed to induce sleep and is used as a bromide or other sedative. When natives are quizzed about this item they reply that since the remedy comes from the body of a night bird, a bird that calls all night long and whose remains are now silent even at night, it should induce sleep effectually. We would, of course, reason that if the bird sleeps all day and sings all night, it would be a good sedative if taken in the morning and a good stimulant if taken at night.

The use of certain parts of pigeons or plantain-eaters, both birds with raucous or hoarse songs, appears to be somewhat in line with this reasoning. The Zulus argue that since both birds sound as though they were afflicted with a sore throat, they must afford a good remedy for sore throats. Consequently the trachea and syrinx are dried, ground to a powder and used whenever the larynx gives difficulty.

A YOUNG ZULU IN FULL COURTSHIP REGALIA. AT THIS AGE HEALTH IS A MINOR CONSIDERATION, BUT SUPERSTITION STILL RULES AND LOVE POTIONS ARE AN IMPORTANT TOPIC.

VARIOUS organs from certain species of animals are much in demand for one purpose or another. The liver from any bold and dashing bird or from a fierce animal such as the leopard is carefully removed and dried, to be used as a remedy for cowardice in dogs or boys. In this matter the line of reasoning is more logical, for courage is supposed to lie not in a man's heart but in his liver. Only the quality of kindness is attributed to the heart, and therefore it is an organ seldom prized among primitive men. To say that a man has a "stout heart" is tantamount to saying that he is "big hearted." To flatter him, one would say that he has a real "honest-to-goodness" liver, which would imply that he is courageous.

It is often difficult to gather even the slightest information concerning the use or uses to which many different beasts, birds or plants are put by the natives. Sometimes misleading state-

THE ZULUS HAVE A REMEDY FOR EVERY ILL. THEY SELECT THEIR CURES FREELY FROM BOTH PLANT AND ANIMAL LIFE. THIS BAT IS HIGHLY VALUED IN THE ZULU PHARMACOPEIA.

ments are given in order to avoid answering embarrassing questions. A good example of this may be found in the case of a highly valued animal about the size of the weasel, with somewhat similar habits but with the markings and odor of a skunk.

This little animal, called the snake weasel, or *iNyengelezi,* by the Zulus, brings a higher price than any other animal, ounce for ounce. In attempting to learn something about the native use of this animal, I gathered from the vague answers that it might be in the nature of a cure-all. From their reluctance to talk on the subject and from the fact that only the old men are willing to pay the exorbitant prices asked for fragments of the animal, one is led to suspect that aphrodisiac qualities are attributed to the animal. Any fragment of the animal will do, but the skin seems especially valuable, and only old men are found wearing the skins of the *iNyengelezi.* Young men seem completely uninterested, although they may be willing to pay a high price for organs from some other animal which they consider valuable as a love potion.

Although it is impossible to do more than touch on a few of the many interesting phases of primitive medicine, yet on discussing the allied field of love potions, not altogether a monopoly of primitive peoples, one encounters superstitions that are exceedingly interesting and closely linked with those of medicine.

The diseases of witchcraft are many and varied. Even attacks of illness brought on by well known worms or bile are often ascribed to the machinations of enemies working through magic. No one ever dies a natural death. Either he is murdered by an enemy spear thrust, or if he escapes that perfectly obvious form of death, he dies from an illness produced by an enemy who prefers less outright methods and operates from a distance.

In seeking relief, either the witch is sought out and killed, or remedies, charms or medicines are obtained and administered in the hope that drugs will be more potent than the enchantment. If death occurs, nothing will satisfy the bereaved but the death of the one who has caused the trouble. The government now forbids all practices connected with witchcraft, but it was not so many years ago that a death invariably had as its sequel another death.

Usually countercharms of some sort explain the failure of an attack by witchcraft, and no native would ever question the potency of these charms. When an attempt by witchcraft fails to bring about a death or a serious and prolonged illness the explanation is that the countercharms have been more potent. When the witch doctor fails in the use of his charms and the patient dies the explanation is that the witch's medicines were too potent for any counterattack.

Death by snake bite, or illness from an insect sting, is invariably supposed to have been induced by some evil-wisher working through the snake or insect. This idea may account in part for the frequent use of a portion of an animal or the entire organism as an antidote. As nearly as a white man can follow Zulu reasoning, nothing could be more appropriate than using the messenger of evil as a cure for that evil. If an animal is able to live in such close proximity to poison or sickness, that is, with the poison actually contained in its own body, it must also contain the antidote for the poison or sickness, or die as would any other animal when the substances are introduced into its body. Both lines of reasoning have been presented as explanations for the use of certain antidotes.

The gall or bile of snakes is considered the best remedy for snake bite and, logically, is applied internally. On one occasion, when I had been stung by a scorpion, I was extremely thankful that the remedy was not administered in the same manner as in the case of snake bite. The scorpion was thoroughly ground up on a hoe and then used as a poultice over the wound. Fortunately it did not have to be swallowed. It was fully expected that the treatment would add to the pain, for the sting was ground up with the rest of the body. As a matter of fact, no additional discomfort was experienced, the pain soon ceased, and there were no bad after-effects. That the pain ceased was undoubtedly

due to the fact that it would have ceased at the same time without the treatment. The psychologic effect of the treatment in a native would have been beneficial even in more severe cases.

One might suppose that the universal remedy for insect stings would be the pulverized body of the insect that had committed the act. The Zulus, however, have many remedies, a different one for each case. Instead of grinding up bees for a poultice the natives chew the roots of certain grasses, usually thatch grass, *isicunga*, or more rarely the roots of a grass called *umbutambutane* or *umbymbytshane*, and spray the site of the sting with the greenish fluid. Grass roots were probably first used as a bee repellent. A man working about a bee hive chews quantities of the grass roots and keeps up a steady spray, now at the flying bees and again over the hive. When the spray fails as a repellent, as it usually does, judging by personal experience, it is used to alleviate the pain of the stings; here personal experience again indicates failure.

While the stings of insects are usually treated, the bites of insects are usually ignored unless they are immediately painful. Often the bite of an insect may have more serious consequences than a sting. Fleas and bedbugs seem to be the most common external parasites, although the body lice, including the head louse, are increasingly common owing to the gradual adoption of European clothing and customs by the natives. Fleas, bedbugs and mosquitoes do not seem to bother many of the natives, although this is not as completely true of the Zulus as of other African tribes with less sanitary habits.

THE personal parasites, pubic louse, head louse and body louse, were never abundant and are not as common now as might be expected, especially among the so-called heathen. The Zulus wash frequently and carefully, and the least civilized anoint their bodies with grease on every possible occasion. Since they live in smoke filled huts, the grease soon absorbs odors from the wood smoke, and the combination seems to make a good repellent of parasites. The women dress their hair with a mixture of red clay and grease, and by this means they apparently smother any would-be trespasser.

The Zulus have a remedy for every ill. They choose their cures from inorganic and organic substances, selecting freely from both plant and animal life. Many of the more potent remedies are supposed to cure not one but many evils, and one, at least, is supposed to be a sovereign remedy with power over every known disease.

While I was photographing rhinoceroses in a Zululand game refuge, I once located four of the huge animals standing close together near a clump of trees. In the company of a native I approached the giant beasts and started to snap pictures of the group. At first the animals showed faint indications of a charge, then signs of growing restlessness and finally a nervousness that amounted almost to fright. As the camera shutter clicked for the last picture, the "rhinos" lost their nerve and wheeled in sudden flight. As they whirled to run, the violent movement disturbed their internal equilibrium so that as they fled they emitted thunderous sounds. In characteristic fashion the native clapped his hand on his mouth and dolefully mourned over the waste of potent medicine. On inquiry it was learned that of all the many remedies for sickness, nature has provided only one that is universal in its applications and infallible of success. Like fickle nature, she has made the remedy unattainable. The universal cure can be obtained only from living rhinoceroses. These huge animals are supposed to harbor swarms of wasps or hornets in their interior, and a sudden move sometimes dislodges them. A man must capture these dry and pulverize them before he has the perfect medicine, for no illness can resist the potent charm exerted by these insects that find shelter only in the body of a rhinoceros.

TO THE ZULUS, WHOSE LIVES ARE RULED BY SUPERSTITION, THE YOUNG HAMMER-HEADED STORK IS THE MASTER OF WITCHCRAFT. HE IS REGARDED AS THE MOST DANGEROUS OF BIRDS.

ALTHOUGH many Zulu customs may seem strange or even ridiculous, we cannot laugh at them as heartily as we might were we not living in glass houses. The widespread use of substances alleged to make the breath sweet and attractive, electric belts and other hocus-pocus, and the prevalent faith in naturopathic and chiropractic fads and fancies are not one microscopic particle more respectable or logical than the emetic a Zulu uses when nauseated and headachy.

A HOUSEWIFE LOOKS at

XXIV. Committee Acceptance of Chocolate Flavored Powders and Syrups

By DORIS W. McCRAY

CHOCOLATE flavored powders and syrups may be combined with milk to make drinks which are delicious and nutritious for young and old. They are useful between meals, at lunch or at bedtime. They are suitable as a part of the meal or as a source of additional nourishment at other hours of the day. Invalids, convalescents and elderly persons, as well as those who are vigorous and strong, enjoy such beverages. Mothers find them useful to supply extra calories to active children.

Some advertisements of this class of foods would have us believe that they are food concentrates with amazing value, but the Committee on Foods accepts only foods that are legitimately advertised, after it has made certain that all claims are substantiated.

The following decision concerning chocolate and cocoa products has been reached by the Committee on Foods:

Special recommendations for children are not permissible for foods consisting largely of chocolate or cocoa which contain considerable quantities of theobromine and caffeine; no objection will be taken, however, to such recommendations in the case of foods that are merely flavored with chocolate or cocoa and which, in quantities likely to be consumed, are free from any probable effects due to theobromine or caffeine, provided the recommendations are permissible for the basic foods themselves.

CHOCOLATE FLAVORED BEVERAGES ENJOY A WIDE POPULARITY.

The use of cocoa, chocolate, or one of the various foods thus flavored is justified when it encourages the use of milk and when that food furnishes needed additional nourishment. Some children will not drink milk continuously unless it is flavored with one of these foods, and this fact accounts for their continued sale and wide popularity. The accepted brands of chocolate flavored foods in this group differ in the nutritional values furnished: all supply calories from sugar, and all supply interesting flavor; some supply vitamin B or D.

The following policies regarding advertising have been outlined by the Committee:

An accepted food shall be wholesome and shall comply with requirements of composition formulated by the Committee and the United States Department of Agriculture for the food article. All advertising matter for an accepted food, whether the seal be displayed or not, shall accord wholly with the physical and chemical composition of the food, its biological or nutritional values, process of manufacture, sterility, freedom from pathogenic organisms, mode of preservation, keeping qualities, quality of excellence, source, raw material from which made, or other truthful description of the product. Accepted general or educational advertising for a specific class of food, but independent of specific commercial brands shall fulfil similar requirements. Acceptance of commercial brands of foods shall signify that both the food article and all advertising shall comply with requirements of the Committee; rejection may be based on noncompliance either with respect to the food itself, to the advertising, or to both. There are no fees in connection with the consideration or acceptance of foods or food advertising. The members of the Committee are not compensated for their service.

MANUFACTURERS have found that the Seal of Acceptance on the label and on advertising adds greatly to its prestige, and they are anxious to comply with the requirements.

So common has become the demand for a chocolate flavored milk that skim milk preparations flavored with chocolate are now supplied by many dairies. One company manufactures a chocolate flavored drink base, or syrup, and licenses its use, its name and standard advertising under definite conditions of a written contract. All the advertising of this particular food has been accepted by the Committee on Foods,

the COMMITTEE ON FOODS

and the product is described as "pasteurized chocolate flavored sweetened skim milk; contains skim milk (from 0.5 to 1.5 per cent milk fat), sucrose, chocolate and cocoa, tapioca flour, salt and traces of tartaric acid and sugar; flavored with vanilla, vanillin and coumarin." The prepared syrup is added to the milk in definite proportions, homogenized, and bottled in standard milk bottles.

Chocolate milk beverages are popular at the soda fountain, and so far as the chocolate has served to popularize milk, it is valuable. Three brands of chocolate flavored syrup have been accepted by the Committee on Foods. One company claims that the product is "a chocolate flavored syrup for the preparation of chocolate flavored milk, hot cocoa and other drinks. Also for dessert dressing, icing, bakings and table uses."

Since many of the chocolate flavored powders for home use have been advertised widely under false claims, the Committee has formulated the following ruling on the designations "food concentrate" and "scientific food concentrate:"

The terms *food concentrate* and *scientific food concentrate* are common designations in current advertising for food mixtures consisting mainly of sucrose, malt extract and cocoa, with a relatively small proportion of dried milk or skim milk and possibly a small quantity of dried egg. These mixtures are used chiefly for preparing chocolate and malt flavored, sweetened milk drinks.

The designations as used, implying a direct process of concentration in the manufacture of the foods concerned, are unnecessary for describing the products, are likely to be misunderstood by the public, are not informative, incorrectly convey the meaning of extraordinary food value, and are misleading by implication. The foods to which they are applied are no more *concentrates* or *scientific concentrates* than are sugar, dried milk, butter and other common foods.

Dried foods and partially evaporated foods are simply and clearly described as such. Little understood and vague terms should not be employed for describing foods to the public. Directly informative statements about foods protect the interests of the public and of manufacturers in food purchasing and selling. The term *concentrate* should be reserved for concentrated solutions of flavors or fruit juices which must be diluted for use, for highly potent vitamin preparations, or for concentrated extracts of foods which are recognized technically as concentrates and for which products the term *concentrate* is not misleading in fact or by connotation. It is appropriate to describe certain evaporation methods for preparing such foods as evaporated milk or malt extract syrup as concentration processes.

IT IS strange how many false claims have been made for food products of this type. It has been claimed that they produce sleep and that they do about anything that a tonic or a sedative might accomplish.

The public is tremendously interested in health and nutrition. Public speakers on platforms and over the air constantly extol the merits of certain advertised products. There is less censorship of the spoken word than of the printed word, but those companies advertising foods accepted by the American Medical Association must submit copy of radio broadcasts and also of all intended advertisements before they are published, in order that the Committee will have a constant check on the accuracy of claims made. This control over accepted products was found to be necessary in order that products should be kept up to the high standards required at the time of their acceptance. This control affects particularly the advertising claims, but it also covers any changes in composition of the manufactured foods.

The following report of the activities of the Committee appears in *The Journal of the American Medical Association:*

Many manufacturers or sponsors of accepted foods, at considerable expense and trouble, have discarded improper advertising and given special effort to the development of truthful advertising, thus showing their confidence in the principles enunciated by the Committee for the good of the public and the industry. This attitude, shown by large and small manufacturers alike, must gradually but surely lead to a higher order of business in the field of foods, and to the establishment of a better recognition of consumer rights, welfare and health.

The Committee has at all times cooperated with the food industry in its problems of

FROSTED CUP CAKES MAY BE MADE WITH CHOCOLATE POWDER.

SO COMMON HAS BECOME THE DEMAND FOR CHOCOLATE FLAVORED MILK THAT SKIM MILK PREPARATIONS FLAVORED WITH CHOCOLATE ARE NOW BEING REGULARLY SUPPLIED BY NUMEROUS DAIRIES.

merchandising foods of desired and expected values supported by truthful advertising. The members of the Committee have given conscientious service to the economic and nutritional welfare and health of the public.

The total number of products submitted up to Jan. 1, 1935, was 2,985, out of which thus far acceptances have totaled 2,317, rejections 91, and withdrawals of acceptance 64. Decisions on some products are still pending. There is a constant demand for copies of the booklet of Committee decisions, which indicates that they are used by educational institutions as authoritative information on nutritional subjects and also that they are used by advertisers as a proper standard in formulating their claims. The office of the Committee on Foods is becoming a repository of information on the composition and manufacture of foods and on all nutritional subjects. It furnishes unbiased and authentic reports to physicians on these subjects.

THE idea of control over advertising is entirely novel to the food industry, as never before has any control of such character and thoroughness been exercised over commercial products and advertising. Sponsors of accepted products submit their advertising matter voluntarily and are thoroughly cognizant of the prestige derived from the use of the Seal of Acceptance.

The claims made by a manufacturer of hot chocolate powder are simple, indeed. The product, which is described as a mixture in powder form of chocolate liquor, cane sugar and skim milk, "makes a wholesome and delicious beverage of high caloric value; it can be used in the preparation of delicious desserts." Some of those suggested are chocolate ice cream, chocolate pie, chocolate fudge, and pudding. In a letter from the company, the writer states, parenthetically, "not cocoa," each time that the name of the product is mentioned.

The difference between chocolate and cocoa, as most readers realize, lies in the difference in fat content. Both are derived from the bean of the cacao plant. Cacao beans are cleaned, roasted, cooled, cracked and hulled. The nibs are separated from shells, germs and foreign material by screening and are ground. The resulting "chocolate liquor" is solidified in molds. In the preparation of cocoa, about half of the fat is extracted. According to federal definition, chocolate, chocolate liquor and plain chocolate contain not less than 50 per cent of cacao fat. Cocoa is chocolate deprived of a portion of its fat.

Neither chocolate nor cocoa is soluble in water, but in a finely divided form, intermixed with sugar, either is readily miscible. The beverage may be prepared in a bowl, with the use of a rotary egg beater, or it may be shaken together in a tightly capped jar or mixer.

Milk flavored with one of the chocolate flavored powders or syrups and thoroughly chilled is delicious in hot weather. It is palatable for breakfast when it might be less attractive served hot, although as the weather changes, appetites may demand the hot beverage.

Some manufacturers go to a good deal of trouble and expense to produce a powder that has unusual appeal in flavor. The volume of sales over a period of years has indicated that their efforts have been justified. Malt extract and powdered skim milk are common ingredients, and salt and vanillin are sometimes added. It is well to try all the accepted brands. One brand furnishes added vitamin D, and the

following claims are made, which are certainly interesting to mothers and to any one wanting to get more calories into a glass of liquid milk:

When prepared as directed, 1 ounce of this brand of chocolate flavored beverage powder to 8 ounces of milk, the powder increases the protein content of the milk 50 per cent, the carbohydrate content 170 per cent, the fat content 10 per cent, the calcium content 35 per cent, the phosphorus content 70 per cent and the caloric value approximately 70 per cent.

The powder as marketed is maintained at a uniform composition. The product contains cane sugar, dried skim milk, selected cocoa, dried whole egg, barley malt extract and flavoring. This powder was used in the preparation of delicious frosted cup cakes, as follows:

Cream together ½ cupful shortening and 1 cupful sugar. Add 2 well beaten eggs and beat together. Sift together 2 cupfuls cake flour, ½ cupful chocolate flavored powder, ½ teaspoonful salt and 2 teaspoonfuls baking powder. Add alternately with 1 cupful milk. Add 1 teaspoonful vanilla. Beat well, and pour into paper baking cups set in muffin pans. Bake about 10 minutes, depending on the size, at 325 F. Brown the tops under broiler flame.

To make the frosting, cream ⅓ cupful butter. Add ½ teaspoonful salt, ¼ cupful chocolate flavored powder, 1 teaspoonful vanilla, a part of 3 cupfuls confectioners' sugar, and 4 tablespoonfuls milk. Beat thoroughly, until the sugar loses its grain and the mixture is smooth tasting as a cooked frosting.

The chocolate flavor may be used to make palatable a food which would not otherwise be enjoyed. Such is the case with a powder recommended especially for its vitamin B. It is made of an aqueous extract of malted wheat embryo, dried. The embryo is the portion of the grain that sprouts to form the young wheat plant, and it contains vitamins, minerals and proteins needed for the first growth of the young plant. The powder resembles malt sugar in appearance and taste, but it is exceptionally rich in vitamin B and in iron. It is biologically assayed and is 100 times richer in vitamin B than whole milk. Sugar, cocoa and vanilla are added for flavor. The advertisements are carefully worded, in alinement with the newest knowledge of nutrition, and their correctness has been carefully checked by the members of the Committee on Foods of the American Medical Association, so that the claims carry unusual force, as do the claims of all accepted food products. Some diets may not contain a sufficient quantity of vitamin B. Its addition to the diet may increase the appetite that lags because of insufficiency of vitamin B in the diet.

A different powdered food for the preparation of a table beverage with milk is claimed to supplement, in the diet, vitamins A, B, D and G and also iron and calcium. The caloric value of milk is increased by the use of this powder, and the flavor is palatable. This product contains sugar, cocoa, soy bean flour, fats, dry yeast, salts, cod liver oil and flavoring. The powder is useful in the diet, particularly for liquid diets, for children, invalids, nursing mothers and underweight persons, who need all the value obtainable from each glass of milk.

The housewife may be guided by the list of acceptances, in her choice of foods for her family.

The Mystery of the Red-Faced Man

(Continued from page 816)

it clearly in 1903 or thereabouts. Polycythemia vera means that there is a real and permanent increase in the red cell count."

"How high does it go?" I asked.

"The highest reported count was 13,600,000," Trebor answered. "And since there isn't room in a cubic millimeter of blood for more than 13,900,000 red blood cells according to calculations, I imagine that number will remain the record."

"How could you be sure which kind of polycythemia the man had? That's what puzzles me."

"In the first place, he did not have any of the causes of relative polycythemia," he replied. "He wasn't an aviator; he didn't live at a high altitude, and there wasn't any heart or lung disease to account for it. There wasn't any reason to account for it; and that was the most important bit of evidence. All the usual or even unusual causes have to be ruled out first, of course. As far as his story went he had a perfect alibi, so to speak."

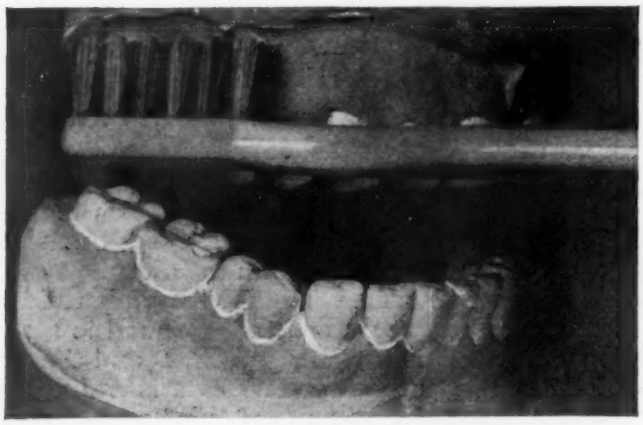
"What made him so red?" asked Carey.

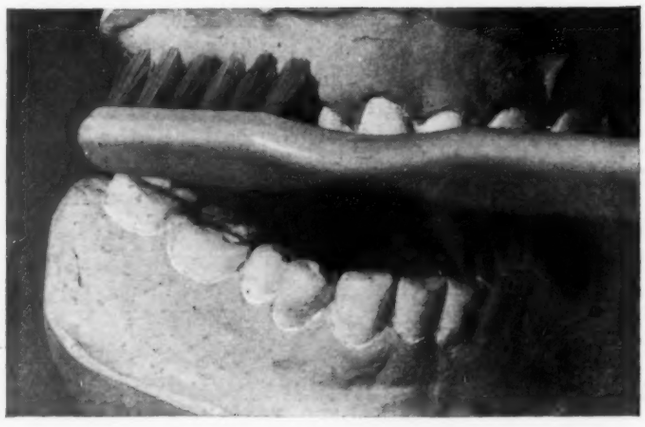
"Partly cyanosis and partly the actual presence of more than the normal amount of blood in the small vessels just beneath the skin," answered Trebor. "You can see this peculiar color best in the mucous membranes on the inner side of the lips, for example. They will be an intense, purplish red, plum color, quite different from a simple cyanosis condition, in which the color is a sort of grayish blue. The purple color does not come only from a dilatation and congestion of the little blood vessels normally present in these membranes; as a matter of fact, there are more than the normal number of capillaries, since new ones form. Then, too, the viscosity of the blood is increased; that is, it becomes much stickier than normal. Other physical changes are found on thorough examination." *(Continued on page 860)*

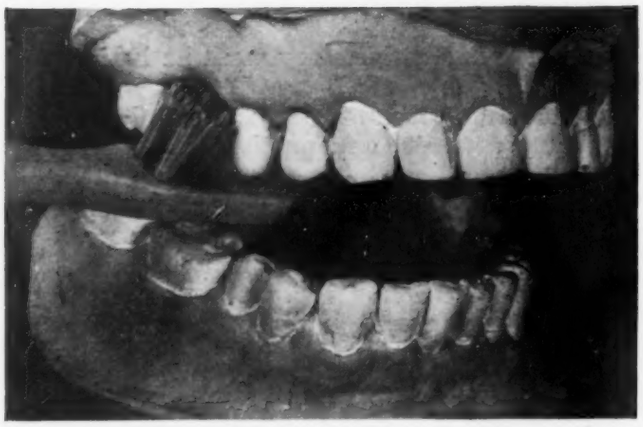
THE ART OF THE TOOTH-BRUSH

Chapter IX of These Teeth of Mine

By DAVID W. McLEAN







AT THE BEGINNING OF THE STROKE TO CLEANSE THE OUTER SURFACES OF THE UPPER BACK TEETH THE BRISTLES OF THE TOOTH-BRUSH ARE PARALLEL TO THE ROOTS OF THE TEETH.

TURNING AS IT MOVES DOWNWARD, THE BRUSH REACHES THE TEETH, WITH BRISTLES BENT, READY TO SPRING INTO THE SPACES BETWEEN THE TEETH. THIS IS THE POSITION FOR THE SO-CALLED WIGGLE MASSAGE OF THE GUMS, IN WHICH THE BRUSH RESTS HALF ON THE TEETH AND HALF ON THE GUMS.

TOOTH SURFACES WHICH FACE INTO VACANT SPACES SHOULD BE BRUSHED IN THE SAME MANNER AS ARE THE OTHER TEETH.

BY THE TIME most persons are old enough to think much about it, they have been brushing their teeth for years. So they take the method for granted and continue to swish the brush around with a fine display of action but with no thought; and frequently the only remaining virtue of the brush is that of long and faithful service.

Yet every one values fine teeth. In fact, wherever there has been a trace of civilization, white and even teeth have been valued, and there has been some practice of mouth hygiene.

An Egyptian sang the praises of a princess of the Pharoahs who died about 700 B. C. Her teeth, according to his song, were harder than the flints on the sickle.

About 300 B. C., Theophrastus wrote that in ancient Greece it was a virtue to shave frequently and to have white teeth.

Dentifrices were used by the Romans, who considered white teeth the first requisite of gentility. Later, a Greek, Hippocrates, devised a dentifrice made of the burnt head of a hare and three burnt mice. Roman writers give numerous other formulas, some containing myrrh, an astringent for the gums.

The Romans also used mouth washes. If a person is inclined to be weak, writes Celsus, he should rinse his mouth in the morning with several mouthfuls of cold water; but always, adds Pliny, an odd number of mouthfuls! And the "odd number of mouthfuls" was quite as valuable as the color and flavor and the bright labels of some modern mouth washes.

A RESEARCH department organized as a part of the American Dental Association has been investigating both mouth washes and dentifrices, and their endorsement is the best general guide in selecting one; but the prescription of either should rest with the family dentist, who is familiar with individual needs.

Dentifrices to be used on tooth-brushes should be regarded as cleansing agents and not as medications or cures. They should not be too abrasive, lest they cut grooves in the teeth. If they are too heavily drugged they injure the gums. The choice between tooth-powder and tooth-paste is one of convenience and personal preference.

Tooth-paste should be spread on the brush, but the proper way to use tooth-powder is to place it in the palm of a clean left hand and touch a wet tooth-brush to it.

Undoubtedly the earliest adjunct to mouth hygiene was the toothpick. Implements which

were in all probability toothpicks have been unearthed in prehistoric ruins. During the period of the great Roman emperors, toothpicks were in general use and were found in the boudoirs of elegant ladies. Roman toothpicks were of metal, later discarded for wood and the quill, which was itself one of the earliest forms used. Many a noble Roman required a substantial pick of metal for the removal of food wedged between teeth worn by rough, gritty foods.

In 1835, Dr. Samuel Fitch in his "Dental Surgery" urged that "the toothpick should have a place in every gentleman's pocket and every lady's toilet; and should be always used after every meal." Books of etiquette dictated that the napkin should be gracefully raised.

But times have changed, and today a toothpick is an anachronism. The mouth well kept by its owner and the dentist makes no demand for toothpicks. Let the tooth-brush take their place.

The world's simplest tooth-brush was the bare finger. The Talmud speaks of a chip or splinter of wood, the end of which was frayed by chewing, for use as a tooth-brush. The same device is said to have been used by some tribes of American Indians and by natives of South Africa, where the fibrous wood of the palm tree still makes excellent brushes.

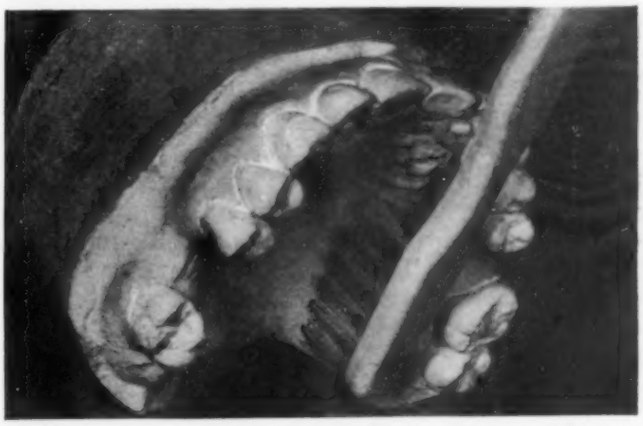
The Brahmin priests rubbed their teeth every morning with a twig of the fir tree. Modern Hindus do likewise, using a fresh fir twig every day; they feel considerable horror at the thought of using brushes made of the hair of animals and of using a brush more than once.

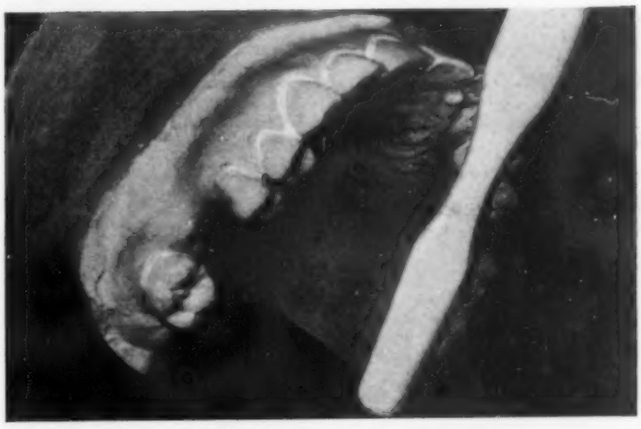
THE modern tooth-brush must have made its appearance during the latter part of the seventeenth century. The wooden stick was still in use in 1650, while in 1728 Pierre Fouchard condemned brushes made of horsehair as being too stiff. But despite Fouchard, the brush made of bristles became the favorite means for cleaning the teeth.

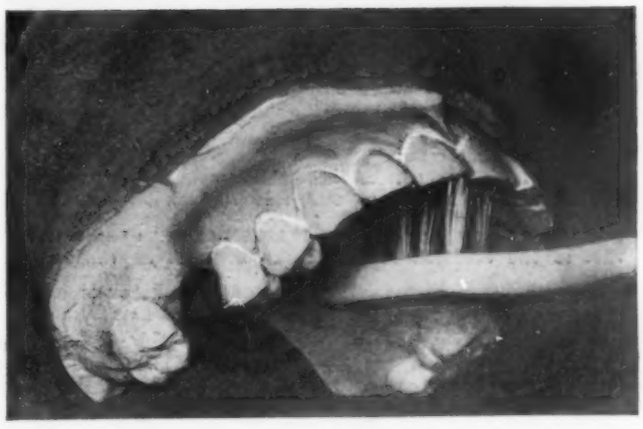
Today there are nearly 500 tooth-brush patents on file in the United States Patent Office. But after surveying the whole history of the art of tooth-brushing, I still advise a simple, plain tooth-brush, small enough to permit real manipulation in the mouth, free from gadgets and easy to keep clean. The line of its bristle ends should be straight; the bristle bundles should be well spaced and suitably pointed to facilitate brushing between the teeth.

The brushes should be sterilized occasionally in some competent germicide and rinsed afterward by standing, brush down, in a glass, under running water, for several minutes. After being used, brushes should be allowed to dry thoroughly in fresh air and preferably in sunshine.

The dentifrice is applied with the brush to the teeth by means of a few strokes across the outer surfaces of the upper teeth. For proper brushing, place the brush against the gums over the back teeth on the left side of the upper jaw, the brush being on its side, the bristles pointing upward and touching the gums about a half-inch above the teeth. The brush is pressed firmly against the gums, and the downward stroke is begun. As the brush moves down toward the tooth surfaces it is slowly turned;



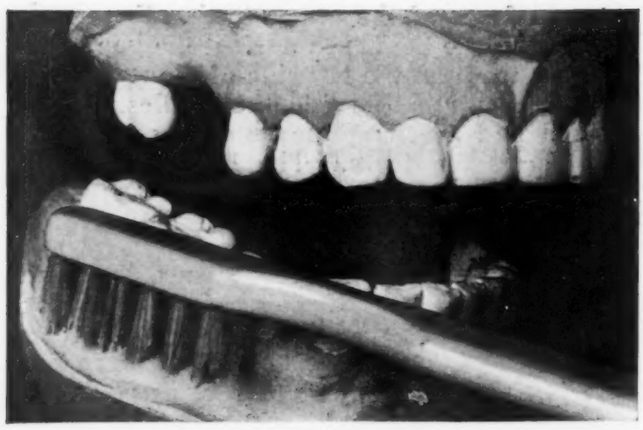


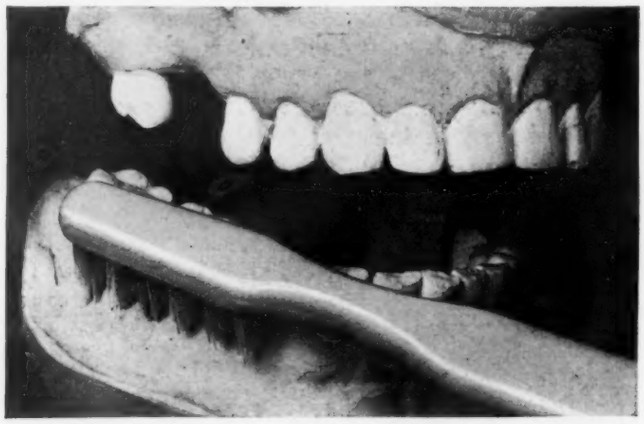


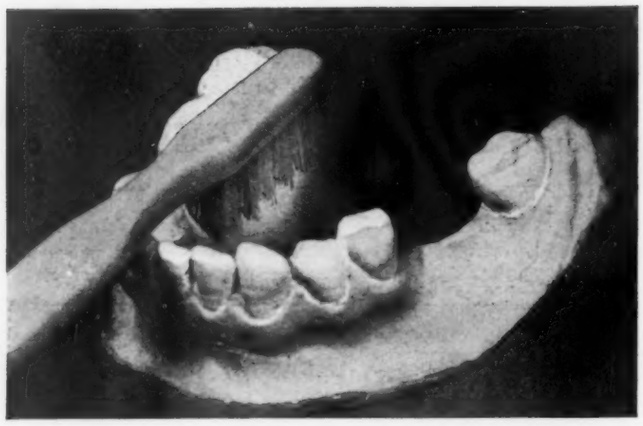
AT THE BEGINNING OF THE STROKE TO CLEANSE THE INNER SURFACES OF THE UPPER BACK TEETH, THE BRISTLES SHOULD POINT UPWARD IN THE CENTER OF THE ROOF OF THE MOUTH.

THE STROKE IS DOWNWARD OVER THE PALATE, GUMS AND TEETH; THE BRUSH TURNS, MOVING DOWNWARD IN "WIGGLE" POSITION.

FOR CLEANSING THE INNER SURFACES OF THE UPPER FRONT TEETH THE BRUSH STROKE IS THE SAME; THE BRUSH HANDLE POINTS FORWARD, THE BRUSH MOVING LENGTHWISE OVER THE PALATE, GUMS AND TEETH. AS IN ALL TOOTH-BRUSHING, THE MOUTH IS HELD HALF OPEN, WITH LIPS AND CHEEKS RELAXED.







IN THE LOWER JAW THE BRUSH STROKE IS THE SAME THOUGH ITS DIRECTION, NATURALLY, IS REVERSED. THE BEGINNING OF THE STROKE IS SHOWN IN THE ILLUSTRATION AT THE TOP.

THE BRUSH MOVES UPWARD AND, TURNING, REACHES THE TEETH; THIS IS THE POSITION FOR "WIGGLE" MASSAGE OF THE JAWS.

WHEN THE INNER OR LINGUAL SURFACES OF THE LOWER BACK TEETH ARE BEING BRUSHED THE BRISTLES ARE LAID AGAINST THE GUMS AND TEETH PARALLEL TO THE ROOTS OF THE TEETH.

when it passes onto the teeth its bristles are almost at right angles to the tooth surfaces. The brush passes down over the teeth, still turning as it goes.

After a few strokes the brush is placed two or three teeth further forward, and the stroke is repeated; the brush is lifted away each time after it has passed down off the teeth, and it is then laid back on the gum above them. After each few strokes the brush moves forward to a new location, until all the outer surfaces have been brushed.

Next the brush is applied to the roof of the mouth opposite the upper back teeth on the left, with the bristles pointing upward. Again the stroke is downward over gums and teeth, the brush again turning as it goes. The point for changing the hand control of the brush will be at the cuspid or eye-tooth; from that point across to the right eye-tooth the brush stroke will be the same, but the brush will be moving lengthwise, its handle in the direction of the teeth rather than broadside to them. At the right cuspid the brush is again turned broadside for the brushing of the back teeth. The brush is then rinsed, and a fresh supply of dentifrice is applied.

The process is repeated on all surfaces of the lower teeth, with the brush stroke reversed, starting on the gums below the teeth and brushing upward.

Only a few brush strokes are applied crosswise along the teeth. The cross stroke is inefficient. It does not brush between the teeth, and it is prone to cut the gums and to cut grooves in the teeth along the gum line. The grooves occur usually in the region of the left cuspid tooth in right-handed persons and in the region of the right cuspid of left-handed persons; the side on which the brushing is "back hand" is less deeply cut because less force is applied. While the front teeth are being brushed the lips are held in a relaxed but pursed position, so the brush will have free access to the gums; the jaws are about half closed, as they should be during all tooth-brushing, with lips and cheeks relaxed.

IN ANALYZING the stroke, one finds that the brush, pressed against the gum, forces the blood out of the surface tissues. As the brush moves downward toward the teeth, the gum area behind it is seen to be blanched, and new blood rushing in turns the gums pink again. Reaching the edge of the gums the brush presses out from under their free margin any débris and stagnant saliva which may be there and brushes them away. Passing onto the tooth surfaces the brush is turning so the bristles are sprung into the crevices between the teeth, brushing those difficult surfaces as no other method will. The gums have been massaged, and the entire mouth, except the tongue, has been made clean.

The top surface of the tongue is dotted with tiny papillae which closely resemble minute mushrooms. Around and under them lurk bacteria—and halitosis! Onion oil taken in capsules will not produce onion breath; but if the oil touches the tongue the breath will be freighted with the odor of onion for many hours.

No mouth is really clean unless the tongue is regularly scrubbed; and our objective is not only clean teeth but a clean mouth, not only

tooth hygiene but mouth hygiene. So now the tongue is stretched as far forward as possible, and way at the back end the tooth-brush is applied, bristles at right angles to the tongue surface. The brush strokes are pointed forward, and the strokes move progressively forward until the tip of the tongue has been reached. The first few days are the hardest.

If there are areas of inflamed gum tissue, caused by deposits of tartar, projecting edges of fillings and crowns, or perhaps by lack of good healthy gum exercise, the congested areas will bleed at first when brushed by this method. If the cause is merely sluggish circulation the bleeding will stop in a few days. If it does not stop, or if it returns later, consult your dentist, for there is some gum irritant which should be removed.

WHEN the time comes to replace the first set of brushes the gums will stand a still stiffer brush than the hardest brush marked "hard." This stiffer brush is one with unbleached bristles. In the natural form some bristles are white and some brown or black. It has been customary in the past to bleach the bristles before setting them, in order to make a nicer looking brush. The bleaching process, however, softens the bristle and removes some of its natural spring temper. The demand for stiffer brushes has led a number of manufacturers to make brushes of the unbleached bristles.

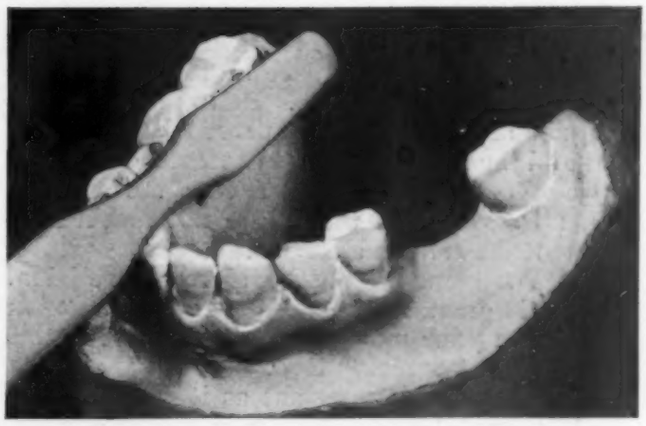
When the unbleached brush is new, one may have to soften it a bit by standing it in a glass partly filled with hot water for a minute or two. Even when softened thus, its bristles retain their spring temper, whereas a soft, old or water soaked brush is flabby.

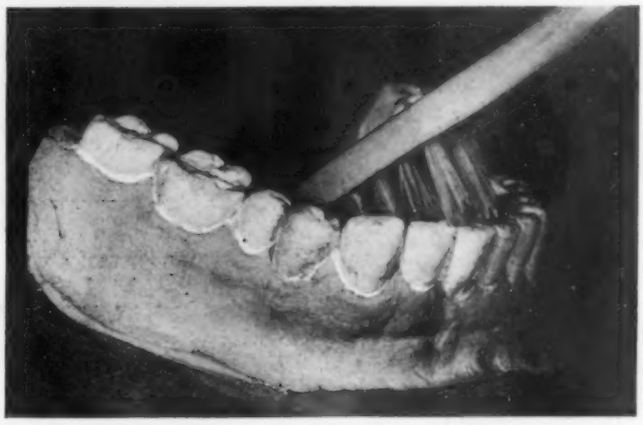
When shallow pyorrhea pockets are present the brusher must make a second round of the mouth before laying aside the brush. This time the brush is brought to the point where it is half on the gum and half on the teeth; it is not quite at right angles to the teeth, and the bristles are bent. It is held there and wiggled, then lifted away and brought to the next teeth, until all have received a wiggle on both outer and inner surfaces.

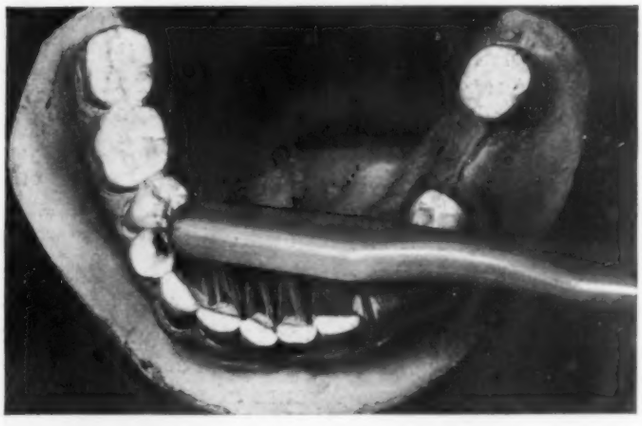
When children are wearing orthodontia bands and wires, which interfere with the stroke of the tooth-brush, this wiggling technic must be used; the wiggling, however, is not done half on the gums and half on the teeth but entirely on the teeth.

The operation of tooth-brushing should require not less than three minutes for each jaw, three times a day: on rising, after luncheon and before retiring, and the last is the most important of the three.

The ordinary use of dental floss between the teeth is taboo. In the long run it does more harm to the gums than it does good to the teeth.







MOVING UPWARD AND TURNING, THE BRUSH PASSES THROUGH THE "WIGGLE" POSITION AND CONTINUES UPWARD OVER THE TEETH.

WHEN THE INNER OR LINGUAL SURFACES OF THE LOWER FRONT TEETH ARE TO BE CLEANSED, THE BRUSH MOVES LENGTHWISE OVER THE GUMS AND THE TEETH. THE MOUTH IS OPENED WIDE.

FOR THE "WIGGLE" GUM MASSAGE OF THE INNER SURFACES OF THE LOWER FRONT TEETH THE BRUSH SHOULD BE HELD IN THE POSITION THAT IS ILLUSTRATED IN THE PICTURE AT THE BOTTOM OF THE COLUMN. THE SAME RELATIVE POSITION IS USED FOR THE INNER SURFACES OF THE UPPER FRONT TEETH.

It has, however, one important use: the cleansing of stationary or cemented-in bridges. Flat or ribbon floss should be used for this purpose. Twist the end into a point, and thread it through between the first bridge tooth and the natural tooth to which the bridge is attached at that end. If it will not go through, double it in the middle, and twist it to a point. The floss is

see-sawed back and forth over the surface of the natural tooth; then, still see-sawing, it is pressed toward the chewing surface of the bridge and over onto the bridge tooth. It is moved toward the gum and, still sawing, passed between the gum and the bridge tooth; it passes into the next between-teeth space and repeats the process until all surfaces of the bridge not reached by the brush have been cleansed.

Mouth hygiene should be almost a religion. Indeed, Mahomet made it part of his. "You shall clean your mouth," he directed, "for this is a means of praising God."

Mouth hygiene, important as it is, is not the whole story. Some years ago, many dentists adopted the slogan, "A clean tooth never decays." It was a good slogan at the time. We know now that a clean tooth can decay, but with less facility than can an unclean one.

Today some persons insist that by this or that magic diet they can heal actual carious cavities in their teeth. Alas, nature has no mechanism for purging the dentinal tubules of bacteria, for filling up a tooth cavity with new dentin, for covering it over with new enamel. Diet can do much, especially in prenatal life and childhood, but it cannot do all.

Despite the most favorable diet and the most faithful mouth hygiene, some caries will occur.

Following closely on diet and mouth hygiene comes dentistry, the third policy for prevention and control of dental disease. The ministrations of the dentist must be prompt, frequent and adequate. They must be given and received with a full realization of the newer concept of dentistry's functions and importance. Every patient and every dentist would do well to pause and ask himself, "What is this thing called dentistry?"

[NOTE.—In the October issue, Dr. McLean's topic will be "This Thing Called Dentistry."]

HEALTHGRAMS ✣ from Articles in This Issue

¶Good or bad grades are not so important as is an evaluation of what those grades actually represent as indicators of social adjustment.
See page 776

¶So helpful was Osler that students flocked to him for encouragement. One compared him to a "breath of fresh air let into a stifling room."
See page 778

¶An infection of 100 or more hookworms produces severe anemia and stunted mental and physical development among children.
See page 781

¶By means of the nursery school many universities and private institutions now offer for adult students, courses in which the real professors are children, 2, 3 and 4 years of age.
See page 782

¶Each generation at some time finds itself midway between old age and youth, irked on the one hand by the conservatism of its elders and on the other by the radicalism of its youngsters.
See page 786

¶There is good reason to suspect that certain drugs for insomnia may cause serious poisoning of the white blood cells. *See page 795*

¶The half of the brain that serves the most active side of the body is obviously the most highly developed. *See page 798*

¶Although many Zulu customs may seem strange or even ridiculous, we cannot laugh at them as heartily as we might were we not living in glass houses. *See page 817*

¶Diphtheria killed some 5,000 children in the United States during 1934. Those 5,000 deaths were unnecessary. *See page 804*

¶Dancing can be a valuable addition to the art of living and a real factor in the development of healthy, happy children. *See page 806*

¶No extra tasks, such as music, sewing and special studies, should be imposed on near-sighted children. *See page 810*

¶Very early the child needs to establish right attitudes toward books. *See page 791*

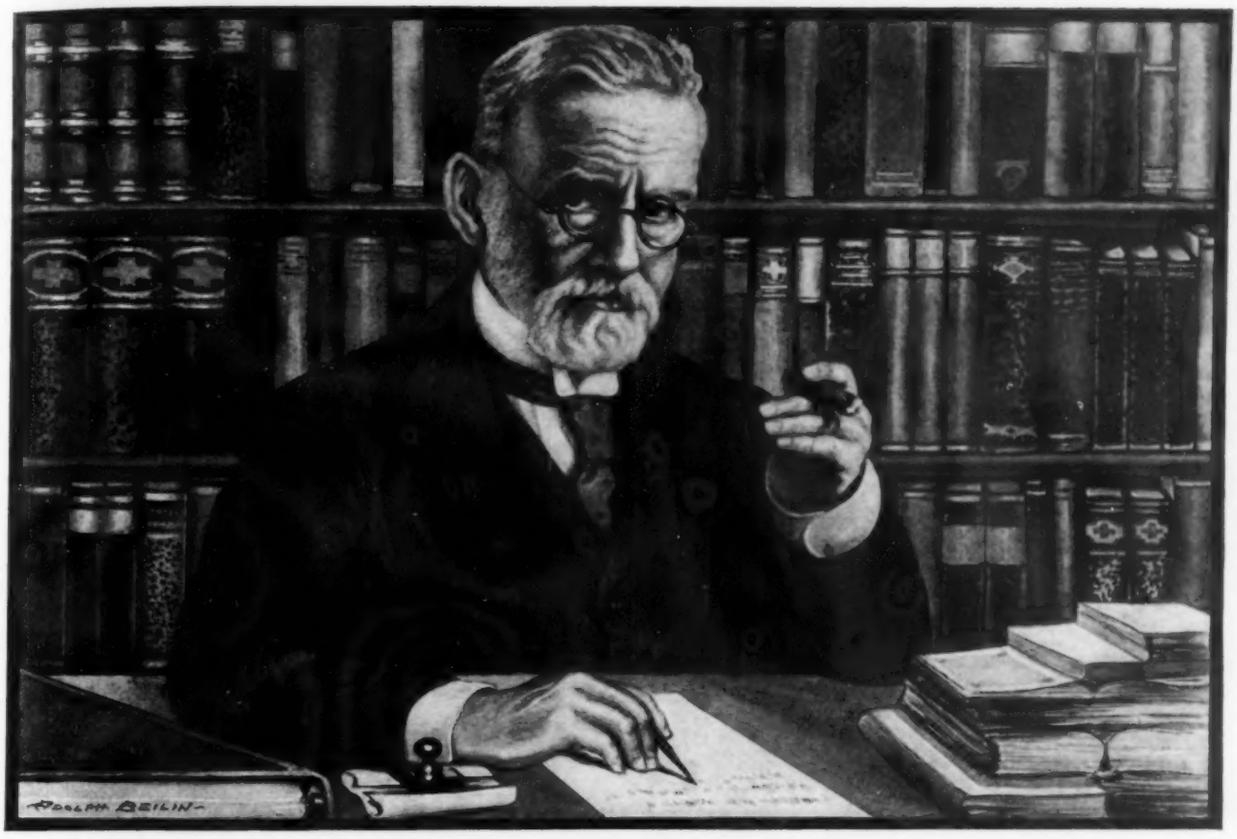
¶Chocolate flavored powders and syrups may be combined with milk to make delicious, nutritious drinks. *See page 820*

¶Dentifrices to be used on tooth-brushes should be regarded as cleansing agents and not as medications or cures. *See page 824*

¶The lasting scars of children's sickness are often not the earaches or the poor eyesight that may have resulted from an acute sickness but the cramping of the child's personality.
See page 830

¶The main objection to basketball is that physical examinations are not demanded of every girl participating. *See page 834*

¶Not only is erect posture the most wholesome position, but nature intended it to be the most comfortable. *See page 836*



PAUL EHRLICH

(1854-1915)

An Exceptionally Brilliant Laboratory Investigator

By ADOLPH BEILIN

PAUL EHRLICH will be remembered chiefly for his discovery of arsphenamine and neoarsphenamine, devised for the treatment and cure of syphilis. He will also be remembered for his investigations on the specific action of dyes on living tissues and for his side chain theory. Another of his important contributions to medicine was his work on the standardization of diphtheria antitoxin. By his careful study of blood diseases he made possible the establishment of a special branch of biology known as cytology. His investigations on the staining of the leukocytes laid the foundation of modern hematology. His discovery that methylene blue possesses an elective affinity for nerve endings has been the starting point of a whole school of highly fruitful neurologic research.

A man of extraordinary versatility of mind, Ehrlich continued to produce results of incalculable benefit to medicine almost until the time of his death; and it is said of him that he revolutionized the outlook in six different branches of medical knowledge. He was also a prolific writer. Between 1877 and 1914 he contributed 212 books and papers to the literature of science.

Paul Ehrlich was the offspring of a family that produced several scientists of distinction. He was born in Strehlen, near Breslau, March 14, 1854. At an early age he entered the University of Strassburg, from which he obtained his degree of Doctor of Medicine. Subsequently he continued his medical studies at Freiburg and at Leipzig. In 1884 he was made titular professor by the Prussian government. During his lifetime many honors and prizes from all over the world were bestowed on him, and in 1904 he was awarded the honorary degree of Doctor of Laws by the University of Chicago. In 1908 he shared the Nobel prize with Metchnikoff.

Ehrlich's interests were exclusively of a scientific nature. Of his personality little is known except by those who shared in the intimacies of his professional work. He was described as a man intensely preoccupied, absent-minded and oblivious to all concerns in life other than the problem on which he was engaged.

A man of moderate desires, Ehrlich permitted himself but two luxuries: quantities of good cigars and an abundance of scientific books and journals. He died suddenly from an apoplectic seizure, Aug. 20, 1915, at Bad Homburg, at a time when his intellectual vigor was at its highest peak and when he might have been expected to carry his researches to still greater heights.

HOW TO SPOIL A CHILD

An Article in Which

Katherine Brownell Oettinger

Warns of the Dangers of Coddling the Convalescent

JOHNNY HAD DISCOVERED A MAGNIFICENT TOOL TO MAKE HIS WORRIED FAMILY BEND TO HIS WISHES. HE MUST BE BUILT UP AT ALL COSTS.

THE LASTING scars of children's sickness are often not the earaches or the poor eyesight that may have resulted from an acute sickness but the cramping of the child's personality. "Since Johnny had scarlet fever he is so delicate." It is an old story to find that this sickness took place six years previously. Ever since that time, Johnny's failure to eat, his temper tantrums and irritability have all been laid to this period when the family fearfully watched day and night for his return to health. Then the ball started rolling: he was "off schedule"; he did not eat well, and the family started to coax and beg. Johnny became aware of their anxiety. He had discovered a magnificent tool to make his worried family bend to his wishes. He must be built up at all costs. Today Johnny's unhealthy personality represents the cost.

PHYSICIANS declare that their hardest task is to convince the mother that the child who recovers from an acute illness is no longer sick. Let us examine some of the factors entering into the successful adjustment of illness, which seizes most normal children at some time. Then, if ever, comes the challenge to steer the patient in a path of straight personality growth.

Illness is the time for reaping the results of character traits already sown. What of the mother who has bribed her child? "If Alice will be a good girl and go to bed without a fuss, mother will take her down town tomorrow." If it is worth 2 cents to drink a glass of milk with the daily meal, how much more is it worth to drink the prescribed dose of medicine? The child may determine that his cooperation is priceless. Daily experience has taught him to barter good behavior. How much more easily his sickness would be managed, if cheerful compliance had always been unquestionably expected.

WHAT of the mother who proudly remarks, "He just won't stay with anybody but me?" She delights in the thought that her 8 month old child recognizes her and prizes her care above that of all others. In the time of sickness this may become a serious handicap, absolutely blocking the patient's chance for recovery.

What of the mother who has failed to build up confidence in her word? This mother has found it easy to avoid a scene by "slipping away" from a child who refused to sleep unless the mother spent the evening at home. She has promised. The child sleeps, only to discover, on awakening, that the mother is gone. How can the child believe her in the time of illness when she says, "Mother will be just outside waiting for you," as she leaves him in the care of the nurse while she snatches a few hours of much needed rest?

What of the mother who has frightened her child by threats that she will call the doctor or nurse? These are bogeymen; not his friends. Of course, every doctor knows the impossibility of working with these terror stricken children. Their parents have forgotten to ask themselves

the question, "What am I teaching my child at the same time I am gaining obedience by this threat?"

The nurse, the physician or the dentist sees not only the fruits of unfortunate general treatment of the little patients-to-be but also the absence of specific preparation for illness. How much better it would be if the child were first introduced to the dentist by a trip to his office when mother has an appointment. He might discover that the dentist is a friendly fellow. He might sit in the chair and let the dentist just look at his teeth. His instruments are not for torture but for interesting use. Compare this child's introduction to the terror striking situation which forced one prominent physician to carry an unreasoned fear through life. When he was 8 years old he rushed into the dentist's office in answer to his mother's shrieks as the dentist placed the plaster for impression in her mouth. His mother, choking, with white material oozing from the corners of her mouth, gave the youngster the impression that the dentist was murdering her. So strongly was this fear conditioned that after the boy had grown to manhood he never could understand why he trembled at the mention of "dentist." It was like an electric shock, although his physical bravery during the war and during desperate physical suffering had called forth only the finest show of courage. A long process of self analysis revealed this hidden, highly emotional, initial experience.

Less dramatic than this, perhaps, is the average child's introduction to the dentist. A more wholesome, planned experience leads the child to happier participation; and, as a result, much of the ungovernable trembling that seizes too many adults at the thought of the dentist may be abolished.

The same is true of the hospital. Many children have heard it spoken of as an unpleasant, cold, unhappy place where sick people die. Should not the emphasis be placed rather on the fact that the hospital is a place where sick people get well? So that though an operation, an accident or an unforeseen acute illness may at the time seem impossible, if an emergency should arise the patient may have a friendly feeling toward the institution he visited under the happy auspices of the convalescent period of some of his friends. Hospitals are willing to work with this scheme so that a visit to a happy children's ward will permit the child to see the little boy with the hurt leg or the little girl who just had her tonsils out, and to hear an important young man tell of his appendix operation. The hospital is not a morbid, unknown prison; it offers cheerful experience.

Such forethought would have avoided a situation which arose in a family confronted with the problem of breaking the news to their 5 year old child that she was to have a tonsillectomy. Finally, in desperation they told her of a tonsil party. The child arose on the appointed day with hardly suppressed anticipation, insisted on wearing her party dress and trustingly got into the car with her father. As he took her hand and she so joyously walked through the hospital doors, tears rose in his eyes as he realized the mistake he had made. Operating-room nurses forcefully declare it is better to tell the child truthfully that she is going to the hospital and that she will be placed on a tall funny table and ride up to the operating room, where she will blow up a big balloon with gas and thus be put to sleep. It is her job to be such a good sport that she will endear herself to the hospital staff. But the child who has been fooled responds only with fear, resentment and panic, which cannot but bring disastrous results in physical condition.

This calling on the pride of older children has often brought forth amazing fortitude. The attitude of one 9 year old hero shows how stupid it is for adults to "try to save trouble" by telling the child the ancient lie that he is "just going to have his picture taken." In this instance the doctor explained the case to his young patient and told him what his operation involved and how it would help him. The doctor and the boy worked over the x-ray films together. Coming to the operation room was an adventure. The patient and the doctor shook hands before the anesthetic, and the doctor solemnly promised to save the extracted bone. All through a tedious recovery this patient eagerly helped the doctor to help him. He understood what was going on and, interested mainly in how it should be accomplished, he watched the painful dressings as an objective scientific observer. His interest in medicine and his life ambition to become a doctor dated from that time. No trauma and no fears complicated his peaceful reentrance into school and home life. Sickness has meant a personality gain, without twists or warps.

The old phrase, "It will not hurt you," is taboo. In the first place it is not true, and in the second place it brings to the child's mind a suggestion of pain. Let any one caring for a sick child remember to play fair and never foist medicine by false remarks about its pleasant taste. The child who has lost faith is the most difficult patient. Always we must build up the child's desire to help himself get well and to show of what splendid stuff he is made. Why cannot we successfully apply to children the principles that make for courage in adults?

During acute illness these highly suggestible children are sensitive to the attitude of the mother and father. The mother who cried with her child when the nurse was struggling to give him a hypodermic was misusing one of the most powerful possibilities for guiding plastic

childhood. Encouragement and firm treatment would have given this child a wall of emotional security on which to lean rather than the shaky structure which swayed with his own fears. Likewise the sick child's general morale will respond amazingly to parents' moods. If the parents weep, have long drawn faces and talk in hushed tones, the topsy-turvy world is created for the child by them, not by his sickness.

From this careful guidance through the acute stage of an illness the mother comes to the convalescent period fraught with dangers of personality damage. The sick child may have become the center of the whole family's interest for the first time in his life. He may have tasted some of the joys that attention for sickness brings. Illness must be made less attractive to the convalescent, but there must not be a too abrupt withdrawal of attention, else it will be perfectly natural for the child to use the same tools for gaining attention despite improving health. Unusual consideration should be given therefore to the joy of having the child function as a normal member of the family. It helps him feel that it is worth while to be well, when Mother remarks, "It surely is good to have a strong fellow help me sweep the snow. I don't know how we got along without you while you were sick." Or during the first two or three days of return to school she may make a casual comment on the happiness it brings to every one to have a husky child return home at 3 p. m. This all means a transfer from the satisfaction that the child has gained from attention during sickness to satisfaction in his present state of health. He has not been forgotten since the disappearance of his sickness, but in health he is assuming a new but quite as important rôle in the eyes of his parents.

THE birth of the neurotic is frequently traced to convalescence. The tale of a 3 year old child, whose family became frantic when the child poked a bean up his nose which could not be dislodged, humorously and vividly illustrates the pleasures incidental to sickness. The family grew hysterical; the patient screamed and kicked. A physician was summoned in haste. He played with the child and his instruments until the child was eventually willing to play the game of "getting-the-bean-out-of-the-nose." The operation was successful. The family breathed relief. On his arrival home, the physician was again called. Junior had liked the extraction so well that he had just put another bean up his nose!

In a less obvious manner the same mechanism operated in Jane's case. She complained of ringing in her ears, headaches, vague pains just above her heart. She is escaping from the troubles of school into the joy of an important place in the family's concern. Convalescence has left her with a perfect neurotic pattern.

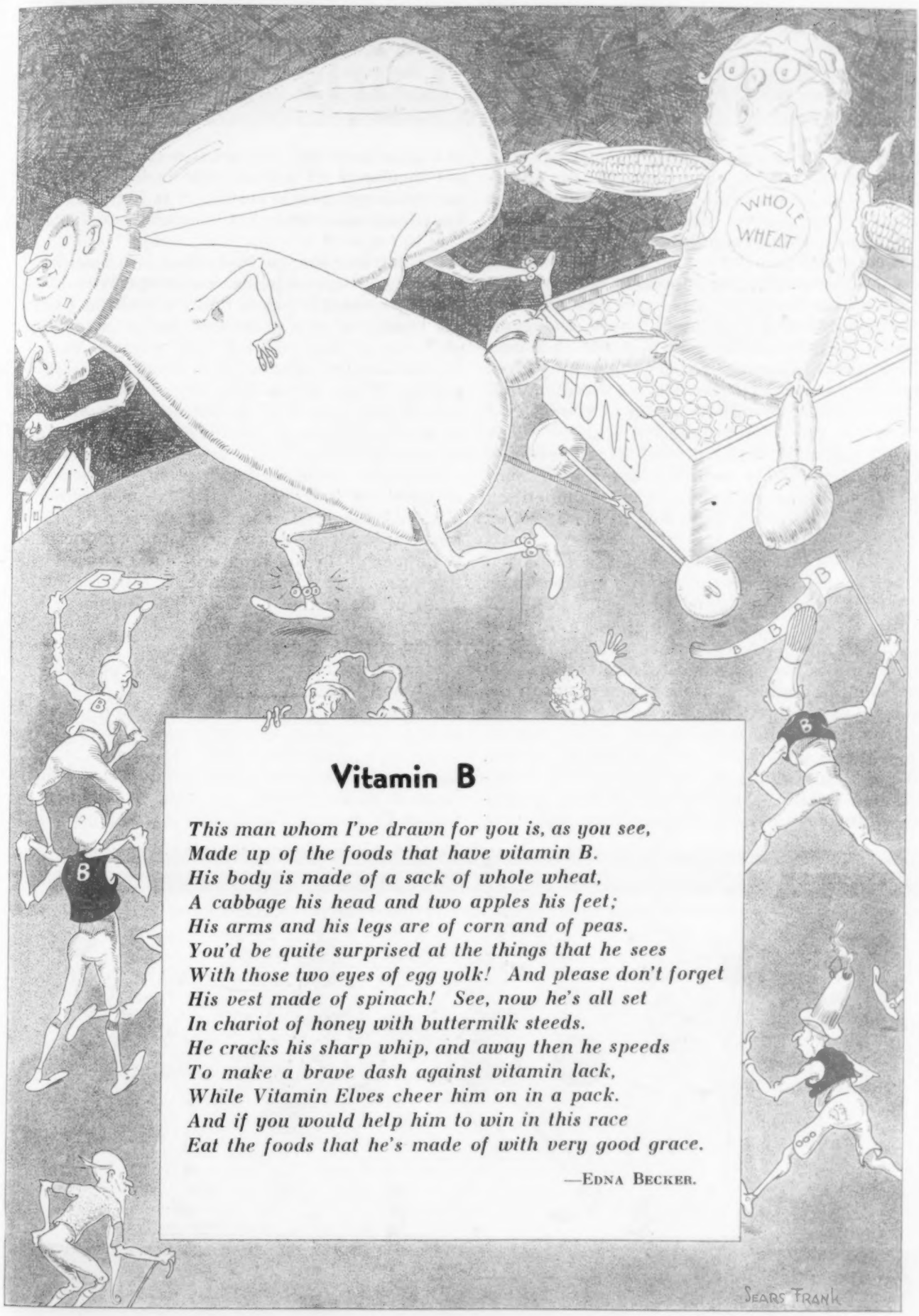
The neurotic emerges the day a child discovers greater joy from telling his friends that he cannot run so fast because it makes his heart beat fast—"sometimes it beats so hard he can feel it right up in his throat." He realizes greater compensation from the interest and wonder of the gang in this strange phenomenon than he gains from achieving second or third place in the race. It is an easy matter to foster the attitude in delicate children by suggesting, "Don't you feel well?" at the slightest appearance of lassitude.

"The doctor says" becomes a magic word to these young neurotics. One 8 year old, who has been taken to a physician miles away from his home for periodic examination, is so imbued with the importance of his illness that as a guest he concentrates his luncheon conversation on his varying degrees of health and finally ends by impressively saying, "The doctor says no vegetables or milk for me."

IF THE young neurotic is unskilled in finding his own excuses, parents unwittingly create some for him. George, aged 5 years, broke his playmate's truck. The mother is aware that this is the usual picture of George's general carelessness and destructiveness. She is ashamed of this child. Her feeling is intensified by the fact that his father is unable to cope with the slightest mechanical adjustment. She fears heredity; at the same time she holds George blameless for its scourge. But she hides her feeling and hastens to assure her neighbors and friends that the toy was broken because "George is so nervous, just like his father." Always it is easier to admit a physical illness than a mental or emotional deficiency. George has failed in this experience to learn the lesson of more careful handling of material. He has, however, learned the mechanism of projection, the placing of blame on others or on inanimate objects for failure within himself.

In an extreme case the love of illness can be exaggerated as it was by 9 year old Jeremy. He simulated a case of appendicitis so realistically, following an attack in a neighbor, that only the most honest child specialist and experienced surgeon could distinguish it from genuine illness. In the hands of the less able, his psychologic means of gaining attention through physical illness would in all probability have brought the child to the operating table within two hours.

All these patterns of continued illnesses, of fear of hospitals and nurses, and of neurotic escape become an integral part of the whole personality. They are so interwoven that their identity is revealed only by careful analysis, and even then the origin is often concealed. All sickness is a mental health hazard. Aware of these risks, the family can reduce these evils to a minimum.



Vitamin B

This man whom I've drawn for you is, as you see,
Made up of the foods that have vitamin B.
His body is made of a sack of whole wheat,
A cabbage his head and two apples his feet;
His arms and his legs are of corn and of peas.
You'd be quite surprised at the things that he sees
With those two eyes of egg yolk! And please don't forget
His vest made of spinach! See, now he's all set
In chariot of honey with buttermilk steeds.
He cracks his sharp whip, and away then he speeds
To make a brave dash against vitamin lack,
While Vitamin Elves cheer him on in a pack.
And if you would help him to win in this race
Eat the foods that he's made of with very good grace.

—Edna Becker.

Is Basketball a Girls' Game?

IMAGINE an average high school gymnasium, the score tied, the last game on the intramural program, and the juniors one point ahead! The players are girls—young girls. Will they be able to stand the strain? Are they physically fit?

Let us shift scenes for a moment and consider another situation in the same sport, this time in a large city, in a settlement house, the gymnasium grimy with the soot and the coal dust of the manufacturing district close by. Here also are two girls' teams playing hard. What is the physical condition of these youngsters?

Now for one more change of locality. This time a game is being played in the evening between two highly polished teams in a commercial or industrial league, where competition is unusually keen. How about these young women?

Do you as the parent, the friend or the coach of any of the girls in these three groups know definitely about the girls' physical condition? In other words, have you demanded a physical examination for every girl competing? Each player should be examined by a physician. No one should be allowed to play who is not in the best physical condition. The girl must be considered not as she is today but as the woman she will be tomorrow! She should be spared all possibility of injury that may prove harmful later in life. Insist on a medical examination for each player at least at the beginning of each season, and oftener if necessary. If you are in charge of a team, this is for your own safety; if you are a parent, it is for your own knowledge and surely for your own satisfaction.

As every one knows, basketball is a fast, hard game for girls, and unless it is properly coached and supervised, it has as many disastrous physical results as any game can have. The main objection to basketball is that physical examinations are not demanded of every girl participating. There is no other way of knowing who should play and who should not. Not all girls are physically equal; what is overstrain for some is not really sufficient exercise for others. In some cases, basketball can make too heavy a demand on the organic vitality of a growing girl. At the high school age, girls have their most rapid physical growth. A marked increase is noticeable in the lung and chest capacity at this age. It is the important time for development of the sexual organs. The pelvic region undergoes pubertal changes which better help to support the visceral organs. The heart increases quite rapidly in size in proportion to the blood vessels. At such times a great deal of the excess energy is needed for the physical changes which are naturally taking place.

Another criticism offered by many is that basketball has so many possibilities of injury because of the bumps and bruises obtained in falls. Of course this is true to a degree, but

FRANCES KIDD Discusses the Physical Dangers and Benefits of Basketball for Young Girls

the Rules Committee, being aware of this, has tried to lessen the danger by limiting the personal contact. Collisions and bumps occur in nearly every phase of life, and basketball is no exception. I grant they are not always the best for one, but good coaching attempts to limit these accidents by teaching balance and coordination along with agility and the proper methods of managing one's body.

AGAIN, unless jumping is properly taught it can be hard on the knee joints. Girls should be instructed in landing on their toes with the knees slightly bent and the muscles relaxed, thereby breaking the jar of the jump and using nature's shock absorbers to their best advantage.

There are several health aspects of basketball that are worthy of mention. It is agreed that vigorous large muscle movements stimulate the functioning of the internal organs. Physical activity is necessary to stimulate the organic system to care for the needs of the body. Basketball, unless overdone, will supply a sufficient amount of vigorous exercise. I have found that basketball is of value in posture work. Whenever a jump occurs the body is stretched out to its full length; the head is up, the chest is not in a slouched position, but expanded, and the spine is straightened. Practically the same thing occurs when short shots are attempted; the head, chest, abdomen and spine are in their correct relative positions. Basketball also attempts what other physical education activities attempt to do; namely, to develop agility through the pivots, starts and stops, and coordination of the eye, hand and body by means of "body control."

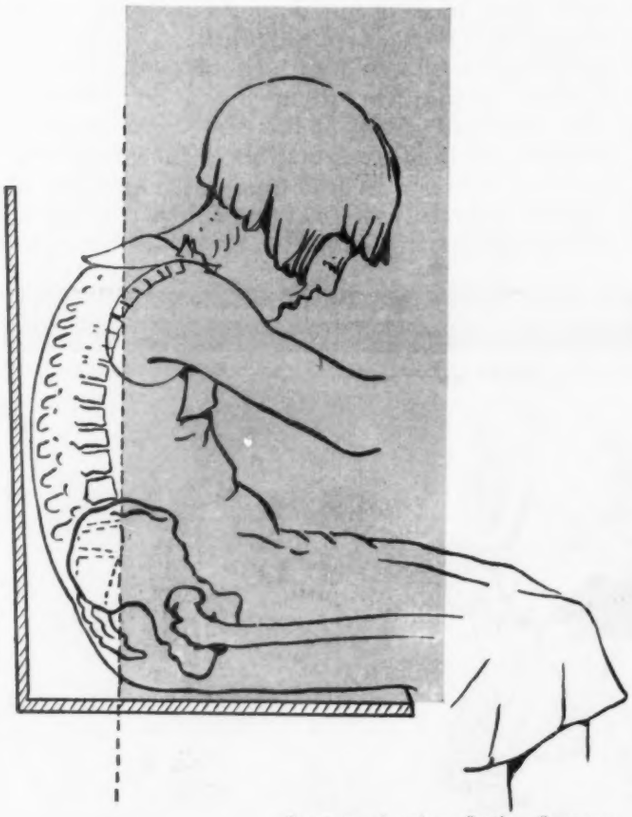
It has been found that many girls have attempted to play basketball without the correct type of shoe or hose. Many girls wear a thin ordinary cotton ankle sock and a thin soled low tennis shoe. These girls, playing on a hard surfaced floor, will have better results from a medium weight wool sock to absorb perspiration, and a high shoe to give the ankle support or a girls' tennis shoe, built with a narrow instep and with a thicker spongy sole, not too heavy, to care for the sudden stops and the frequent starts and dashes.

I HAVE attempted to put forth what I consider the strong and the weak points of basketball from the angle of health. I do not, of course, believe in interschool competition, nor do I believe that men should coach girls' teams or that girls should play while they are too young. However, if girls are physically fit, that is, if they have passed the doctor's inspection, they should be given an opportunity to play. I am speaking mostly of high school girls, and I am convinced that for them the good points far offset the bad points of this sport. With careful coaching in the fundamentals of the game, under the watchful eye of a competent leader, no disastrous results will prevail; for after all, it is a real game with real fun for real youngsters!

TOWARD AN UPSITTING

THE WORTH and the joys of living are dependent on the proper functioning of the vital organs. Habitual crowding and displacement of the organs lower their functional efficiency and hence the general level of vital energy, directly causing some disorders and increasing susceptibility to most others. Such persistent crowding and displacement are among the consequences of stoop and bad habits of sitting. Sitting habits are mostly determined by what one sits on. Most seats are conducive to stooped sitting.

Some such reasoning fermenting in the mind of a professor of education led to the conclusion that some one ought to be doing something about it. Medical science has the anatomic facts at hand but stops just short of the chair in its diagnoses. Furniture makers know their materials and constructions but stop just short of the human body in seeking the principles of chair design. The gap between seat and sitter may be spatially negligible, yet it may have far-reaching effects on the backbone, temper and world outlook of a sedentary civilization. A manufacturer of seats thought the idea was worth investigating and offered to back it. Ornament, color and period authenticity can go only so far in improving seats; certainly not far in school seats. So the professor was transferred from the seats of learning to the learning of seats.



Courtesy, American Seating Company

IMPROPERLY DESIGNED SEATS CAUSE THE BODY TO SLUMP. THE SPINE CURVES; THE SHOULDERS HANG FORWARD; THE CHEST IS FLATTENED; THE LUNGS ARE COMPRESSED; DEEP BREATHING IS IMPOSSIBLE, AND THE BODY WEIGHT LEANS ON THE DISPLACED AND COMPRESSED INTERNAL ORGANS.

Interested primarily in the posture of growing children and untrained alike in the science of medicine and the methods of industry the professor was commissioned to find out whether chairs or human bodies ought to be redesigned, and how. The literature of school hygiene disclosed unanimous agreement that school seating is all wrong and that it is responsible for a large proportion of the ills that youthful flesh is heir to, a wealth of contradictory and demonstrably incorrect data, a maze of impractical and unoriented proposals and some unsprouted seeds of constructive thought.

There followed an exploratory excursion into fields of medical lore, with the necessary guidance. There was no expectation of contributing to anatomic knowledge. The intent was rather the selection of pertinent facts already established and their reorganization about the almost new problems of a sitting and a seating science. Some of the observations were so novel as to amount almost to discovery. Some fine flowers of orthopedic contributions to posture and seating were found wasting their sweetness in the desert air of professional libraries. All were submitted for approval or criticism by competent authority.

THERE was designed and constructed an elaborate measuring apparatus by means of which twenty-odd superficial segmental dimensions pertinent to seating could be quickly recorded for each subject. Many thousand individuals, mainly school children, were measured. Data were tabulated and correlated in every combination that promised to be of significance, positively or negatively. Graphic records were made of the profile curves of several hundred backs in standardized position, and these were correlated with numerical data.

Standards and technic were established for recording typical sitting postures, and several thousand scores were made and correlated with such possible contributing factors as seating conditions, age, sex, type of work being done and the fatigue factor. Furthermore there were

GENERATION

By Henry Eastman Bennett

formal city-wide surveys and hundreds of semi-formal classroom visits devoted to obtaining information as to actual seating conditions, difficulties, requirements and ideals in American schools. Seats of all sorts were analyzed with reference to their effects on the sitting postures of persons of diverse proportions.

It was necessary to determine conclusively just what sitting conditions are most healthful, which are most comfortable and least fatiguing, which are efficient, graceful or otherwise desirable, and to what extent these conditions are harmonious or in conflict. Such conclusions had to be translated into seat forms and dimensions. There is special need of care and thoroughness because there have been many theories and designs of "posture" chairs so contradictory among themselves that if "posture" correctly designates some, "imposture" must be applicable to others. There is a particular difficulty arising from the fact that in the public mind good posture is not infrequently associated with stiffness and discomfort and bad posture with ease and relaxation.

IT WAS discovered that the spine is not "a bone that runs up the back" but is really a column centrally placed in the trunk and marvelously designed to sustain the body weight for an indefinite time without muscular effort, so long as that weight is properly distributed about it. The key to the whole posture problem is found in the poise or balancing of the weight on its spinal support. In fact, the efficiency of the whole structure of the human biped centers in the change of the spinal function from that of a bridgelike truss as in a quadruped to that of an architecturally efficient supporting column. Despite the marvelous flexibility of the spine, despite the fact that it is a string of twenty-four articulated vertebrae which rest on a sloping support in the pelvis and this in turn on a pair of rocker-like bones in sitting and on a pivot joint with the thigh bones in standing, in one position it not only holds itself erect but without muscular strain carries body and head weight and perhaps a load besides. This appears to be an astonishing balancing trick until one remembers that a goose sleeps standing on one foot. The perfectly poised posture is characteristic of primitive people and is the ideal of military training. It is awkward only to those who sit a great deal on seats which make it difficult.

The perfectly poised position, which is called erect posture, is that in which the pelvis stands vertically, so that a plane passing through the points of the seat bones and the points of the hips would also pass through the points of the shoulders. In erect posture, by mechanical necessity, the spine curves forward at the lumbar level, or small of the back; the shoulders fall back and down of their own weight; the chest is lifted; the lungs are expanded and, by a series of shelflike and basket-like provisions, the heart, stomach, liver, kidneys and intestines are firmly supported from below and have maximum space for their full and vigorous functioning with no possibility of crowding or displacement while at the same time the pelvic organs are thoroughly protected from the downward crowding of the intestines. For these reasons, which might be illustrated at length with most interesting detail, the erect position is the most healthful, the most favorable to wholesomely vigorous living, that is possible to the human biped. There is no other position, except lying down, in which the human anatomy is provided with means to counteract the natural tendency of the internal organs to fall and crowd down on each other by force of gravity and to suffer further compression from the weight of the body and head.

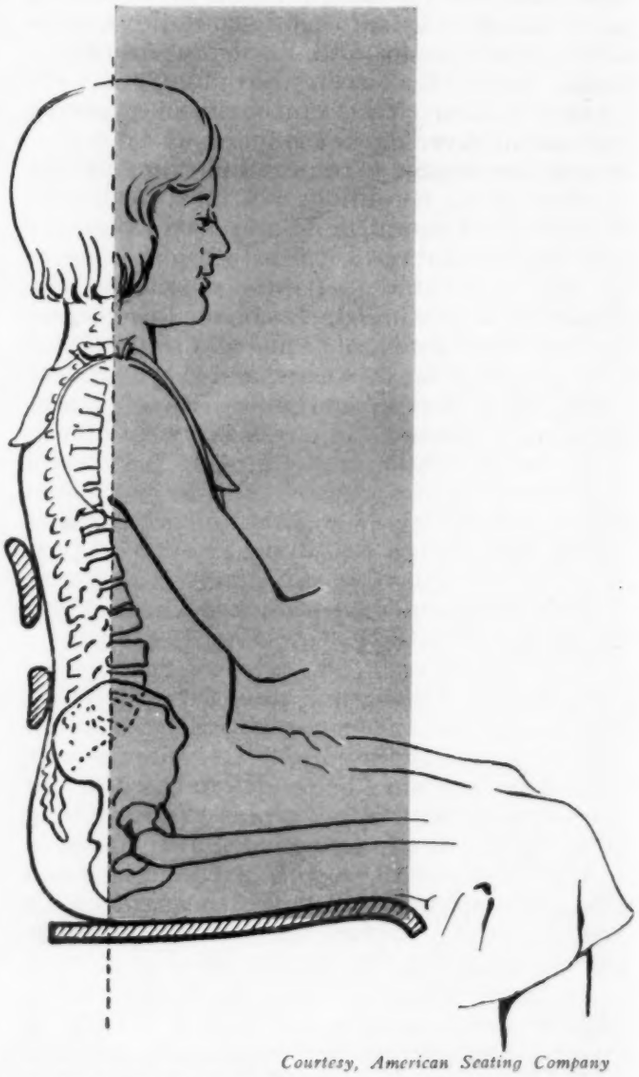
IN CONTRAST with the erect position, let us note the characteristics of a typical stoop or slump which occurs when one slides down in one's chair. Then the pelvis tilts backward, so that a plane passing through the seat bones and the points of the hips would pass far behind the shoulders. Then, by mechanical necessity, the spinal curve at the lumbar level turns backward and the shoulders hang forward, forming a single continuous curve from seat to neck. The chest is flattened, the lungs are compressed, and deep breathing is impossible. The receding spine no longer supports the heart and stomach, and these along with the liver and kidneys are literally dumped off their natural supports and crowded down on each other. The abdominal walls become a loose bag to make room for the displaced intestines, which are variously looped and kinked and forced down into the upturned pelvic bowl against the unprotected delicate organs there located. These displacements are necessary to provide for occasional bodily movements and are harmless if not too violent, but when they are long continued or made habitual they contribute inevitably to a generally lowered vitality and more or less directly to the majority of human ills.

In stoop the back muscles are stretched and vertebral structure is compressed on the forward side. When stoop is habitual the muscles are permanently elongated and weakened, and the vertebrae and cartilaginous pads are permanently flattened, making a return to the erect posture difficult and fatiguing. The continued failure to aerate the tips of the lungs by deep breathing renders them susceptible to tuberculosis; pressures on the blood vessels and the heart itself enormously increase the work load of the latter; stomach action is restricted; the kinks and loops cause stoppages in the intestines and conditions favorable to the attacks of bacterial enemies. In short, habitual stoop means a general depression of the vital functions and decreased resistance to most of the foes of physical health and vigor.

NOT only is erect posture the most wholesome position, but nature intended it to be the most comfortable. This is because when the weight is well poised it is carried directly from the seat or the floor by the column of bone, and bone does not get tired. It is muscular and nerve strains that cause fatigue, and there is a minimum of these strains when the sitting or standing is erect. Physical training exercises in posture go astray when sight is lost of this fact. Pushing the head up, the chin in, the chest out or the shoulders back, and all other forms of effort and tension are awkward and futile. The way to get perfect posture and enjoy it is to get the pelvis lined up with the shoulders, as already described, and relax. Good posture is essentially relaxed. As soon as one loses the balance of erectness one can sustain oneself only by strain of the back muscles against an adverse leverage, which increases as the degree of stoop increases until one is actually hanging by the back muscles and leaning on the viscera. This is both fatiguing and unwholesome.

That these almost obvious facts are not more generally appreciated and may even be challenged by some in the light of personal experiences may be ascribed to the teaching and the seating to which they have been subjected. Good posture has been taught them as a form of stiffness and tension instead of as a poised relaxation. Seats have been so shaped and proportioned that relaxation in erect posture is anatomically and mechanically impossible. Reform is needed in both the teaching and the seating.

POSTURE teaching is most commonly concerned with carriage and standing. Even military training seems to ignore sitting. Yet the soldier sits through incomparably more hours than he is afoot, and life for most of us has become so sedentary that our legs function for little else than to move us from seat to seat. We stand or walk for minutes occasionally. We sit for hours persistently. When afoot there are compensating incessant movements which stimulate organic functioning and tend to prevent the onset of habits. But our sitting is long continued with little change of position, with unrelieved pressures, displacements and strains. Habits in sitting are inevitable. Furthermore one must maintain a fair degree of balance in order to walk or stand alone, but seat structures permit almost any slumps or contortions. Standing would be impossible with the spinal sag in which most of us sit much of the time.



Courtesy, American Seating Company

CORRECTLY DESIGNED SEATS AND BACK SUPPORTS ENCOURAGE ERECT POSTURE AND COMPLETE RELAXATION. THE SHOULDERS FALL BACK AND DOWN OF THEIR OWN WEIGHT; THE CHEST IS LIFTED; THE LUNGS ARE EXPANDED, AND THE INTERNAL ORGANS ARE FIRMLY SUPPORTED AND THOROUGHLY PROTECTED.

Another health point of incalculable importance is that erect sitting posture is essential to the conservation of eyesight in an educated people. A major visual strain both in school and in the life of all who have been schooled is reading. Most reading is done while the reader is seated. Reading in stooped sitting position means inefficient lighting and bad visual angle; a tendency of the blood to congest in the eyes;

elongation of the eyeballs, causing short sight, both through the pull of gravity and the uneven operation of the eye muscles, and an enormously increased load on the tiny muscles of convergence and accommodation involved in the incessant eye movements necessary to reading. Continued reading is definitely a visual peril unless body and head are erect, though this introduces the further problems of eliminating glare and holding the page steadily at approximately the level of the chin. Because these problems have not been solved for most readers, failing vision is a price that learning in general pays for this specific ignorance.

So it is that nature has prescribed this one poised posture as the most healthful, the most comfortable and the most easily sustained without fatigue. It is also, for reasons which lie far back in the psychology of the individual and of the race, the posture that commands respect and engenders self respect. It is the most graceful, attractive and efficient. It is the soldierly, commanding, dignified attitude which has through the ages given rise to such terms for moral attributes as "upright," "poised," "well balanced," "level headed" and "straight."

THE problem then narrows to that of making seats such that erect sitting posture will be the most natural, most comfortable and most easily sustained and will become habitual. The Designer of human anatomy did not design the seats provided for it. That the only authentic principles for designing them were laid down in the human body seems to have been overlooked. What the seat must accomplish is to insure that when one relaxes in it posture will be both erect and comfortable. This means that the pelvis must rest vertically with the forward lumbar curve preserved and the shoulders hanging back freely, the points of seat bones, hip bones and shoulders being in the same plane and that in this position there are no uncomfortable pressures, strains, pushes or pulls. This requirement seems simple, nature having so perfectly arranged all the rest.

A simple posture test for a seat is to sit as far back in it as you can and relax against the back. If there is the slightest tendency either to slide forward on the seat or to pitch forward at the shoulders it will require an increasingly hard fight against gravity to maintain erect posture in it. Even if these tendencies are not perceptible there must be no ridges or edges of pressure behind the knees, on the seat or against the back. If the seat is to be permanently satisfactory care must be taken that none of these conditions will later arise through the sagging of springs, cane or supporting fabrics, or through the smoothing effect of wear on contact surfaces.

Chairs are not tailored to individual measure and should have the same postural effect on all who occupy them. This is accomplished primarily by a sufficient backward slope of the seat to prevent any forward sliding tendency. There must not be any elevation whatever of the seat surface rearward of the area on which the weight rests, or any elevation that could prevent any occupant from sitting as far back as the back support permits. This refers to such intolerable features as the rise at the back of the scoop in a saddled seat and the rear frame support of a seat that sags toward the middle. Back support is primarily for the purpose of keeping the hips and small of the back forward; hence there should be no support contacting against the buttocks. The lumbar support should be slightly flexible to provide for varying individual back curvatures and for some shifting of position. Any shoulder support should slope back sufficiently to insure the functioning of the flexible lumbar support. Only such chair backs permit good posture with relaxation.

The seat should also provide some restful support under the upper or thick portion of the thighs when the feet are extended forward, but it should never be so high or so deep, front to back, as to cause any pressure whatever under the knees when one sits well against the back support. The majority of chairs are too high or too deep in the seat, or both, for those who sit in them. A low chair with short seat does not by these facts interfere with erect posture. For lounging the chair should be lower, with both seat and back more inclined and the back extending higher, so that the upper weight rests more fully against it, but with nothing in its design in conflict with what has already been said.

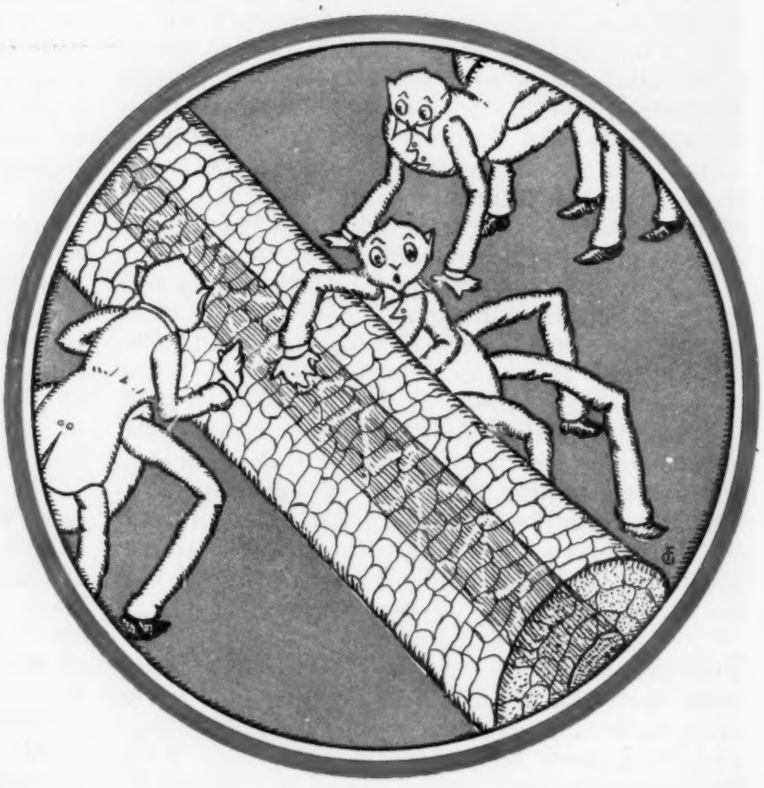
WITHIN the limits stated, chairs and seats for all purposes may be made in endless variety of styles, materials and finishes. They may be of authentic period design only to the extent that they do not violate the higher authenticity of the human anatomy. Unfortunately the Heppelwhites, Adams and other historic designers neglected to consult the supreme authority, and their copyists to this day have not presumed to do so. Hence, though the principles of chair designing far antedate the designing of chairs, it is, with a few promising exceptions, only by lucky chance that a chair favorable to comfortable erect sitting can be found. Even the so-called posture chairs often embody but one principle of good seating to the exclusion of all others and to the exclusion of all that is suggestive of beauty or real sitting comfort. If posture is not comfortable it is not good, and a chair that does not make good posture comfortable is not a good chair. Every chair for every use should be a posture chair regardless of its style, price, construction or color scheme. Civilization needs an upsitting as well as an upstanding generation.

How Bacteria Grow

Chapter II of

A MODERN ALADDIN'S LAMP

By J. F. Rogers



"A HAIR LOOKS AS LARGE TO US AS A FOREST TREE DOES TO YOU."

The Story So Far

ONE RAINY day a very eager little boy discovers that his father's microscope is indeed a real Aladdin's lamp. Through its magic power he is introduced to the teeming bacteria world. A mysterious "voice," speaking for the microbes, tells him many interesting things. To climax an adventurous and unusual afternoon, our young hero suddenly grows into a mammoth giant. The "voice" tells him he can now see for himself how many hundreds of times larger he is than a single microbe. Just as suddenly the boy is back in his father's study ready for further adventure, as chapter two begins.

SO ABRUPT had been my return to normal and so strange my entire experience that it took me a few minutes to become adjusted to the familiar surroundings of my father's study. The first object that fixed my attention was the shining barrel of the microscope, and my first impulse was to look into it to see the microbes again. They seemed smaller than before. I heard a voice, a new, tiny voice. After my recent experience I was not at all surprised to hear it. It said, "Now you know how big we feel when we are magnified. Do you understand that we are now like mountains compared to our former selves, though you think we are but tiny dots?"

It was, of course, the voice of one of the bacteria speaking, and it continued, "You must realize that one of the hairs of your head falling down on this glass plate seems as large to us as a great forest tree does to you."

I had been told that microbes are very dangerous things, but when I thought for a moment how extremely small Mr. Bacterium (that's another name) really is in comparison with man, I laughed outright at the thought of having any fear of him. Just then I heard the thin, small voice say, "Mr. Bacterium is very small and weak, but in numbers there is strength."

I smiled again to think how many of these small beings it must take to make a dangerous army.

"We will show you how fast we can grow an army," came the tiny voice, "but we must have something to eat first. We cannot grow without eating, any more than you can."

"Pardon me," I said, "for my lack of hospitality. I'll see at once what there is in the pantry. What would you like most?"

"Have you some fresh human blood to spare?"

I was shocked and cried out, "You villain!"

"Well," apologized the bacterium in the same calm, thin voice, "you asked me, and I had to be truthful. In order not to give you wrong ideas of us, I will say that only a few of our kind care for such delicacies. If you cannot spare this article, will you not give us some good rich meat broth?"

"I think I can give you some of that," I said, "but first won't you tell me your name?"

"We are the Typhoid Germs, sir," he answered.

"Dear me," I thought, "I heard of a boy who was killed by Typhoid Germs."

"Yes," said the microbe, who evidently understood what I was thinking about, "we cause typhoid, and people sometimes die of that fever; however, if they keep out of our way or keep us out of their way, we can do them no harm."

"Well," I said, "you certainly look harmless enough, and I have promised you something to eat, so I'll fetch it. You are so small that you will not need much."

I knew where the cook kept the left-over broth, and finding a small cup of it I hurried back to my guests.

"Is it hot?" inquired the voice with some agitation, as I was about to put a little on the glass plate. "We cannot bear anything hot. Besides," he said, as if apologizing for being impolite, "you would be killed yourself if a giant were to pour boiling soup over you."

"So you are afraid of some things, are you?" I asked.

"Yes, of a number of things, especially exceedingly hot things and bright light. Sunlight will kill many of us in a few minutes and all of us in a few hours."

My guests now began to eat as I watched them through the microscope, and they seemed to be very hungry. Seeing them moving about as they were feeding, I asked, "Can all bacteria run about?"

"No," said the voice, "only certain kinds of us."

"I hope," I said, "you bacteria will soon become more civilized and be a help instead of a hurt to man."

"Well," was the reply, "you need not be so piqued. We have heard that men live on each other, and if we eat you it is because you take us into your bodies. If you would be more cleanly with your food and drink and in your ways of living, we would be obliged to change our habits and get a living some other way."

I thought about this a while. When I looked at the microbes again they seemed to have grown. Watching them closely I saw that they continued to grow, and presently some and then all of them began to divide in two, making twice as many as before.

This wonderful sight had all taken place in less than half an hour from the time when I gave them the broth. I now remembered reading in the book about the great rapidity with which germs can multiply, sometimes in as short a time as fifteen minutes. They had certainly multiplied two times over! Laughingly, I sang out to them,

Now which is one?
And which is two?
Which is old?
And which is new?

"We ourselves can hardly tell" came many small voices in reply.

"Whew!" I thought, "the multiplication table with these small folk must run:

Two times one are two,
Two times two are four,
Two times four are eight,
Two times eight are sixteen,
Two times sixteen are thirty-two, etc.

Then I took out my pencil and figured by this table the number of guests I would have in a day. After a great deal of work I finally found there would be over 500 million microbes.

I thought it was about time to remove the food supply in order that my guests might not crowd me out of the house. They could not grow any more, however, after they had used up all the soup. I had read that if one bacterium could have all the food he wanted, his children would in a week or two be so numerous as to fill up the ocean. It's a good thing they cannot get all they want to eat. Even if they did, the book says that they would be destroyed by their own poisonous breath when crowded together in great numbers.

When I had removed the soup from the neighborhood of the germs I asked them how it was that such insignificant things as they could be harmful to man, could lay him in bed and even destroy his life.

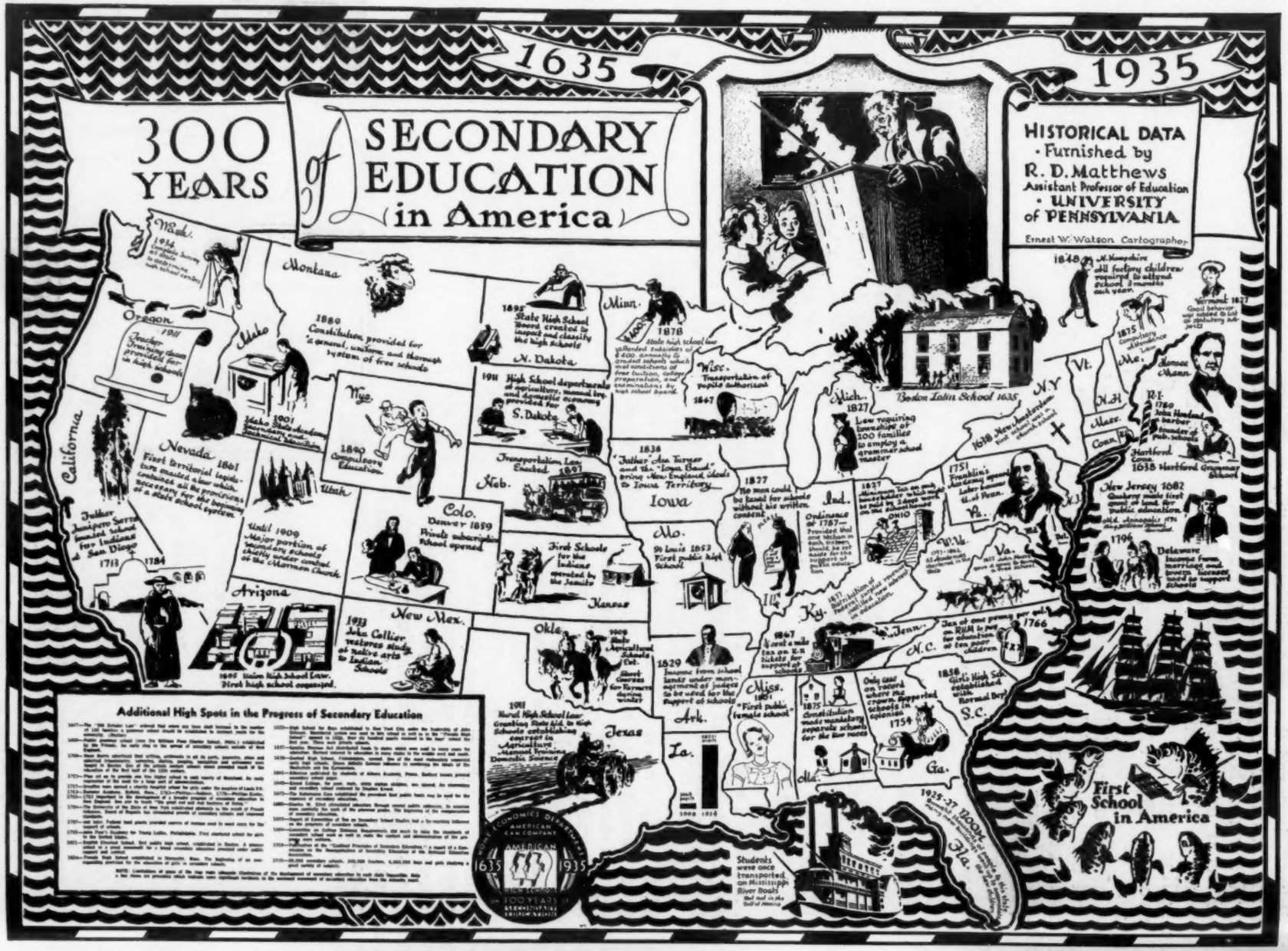
"It is because of a poison we make that is far more powerful than any of the dangerous drugs of which you have heard," they answered. "In return for your kind hospitality, we will let you into a secret, and it is this: most of us are very much afraid of the white corpuscles that live in your blood. It is no wonder we are afraid of them, for they eat us up without mercy. We are more afraid of materials in the blood that are made by the human body on purpose to destroy us if we get inside.

"A great many of our number are killed every day trying to get into human bodies that are kept in good healthy condition or are defended by these substances produced by the body or by medical science. It would be much safer for you if you would be more careful not to let us get into your mouth or nose and into your food and drink, for then we could not harm you at all.

"You must always remember that corpuscles and bacteria-destroying substances in your blood may protect you against a few bacteria but not against an attack by a great number of us."

(To be continued)

I KNEW WHERE THE COOK KEPT THE LEFT-OVER BROTH, AND FINDING A SMALL CUP OF IT I HURRIED BACK TO MY GUESTS.

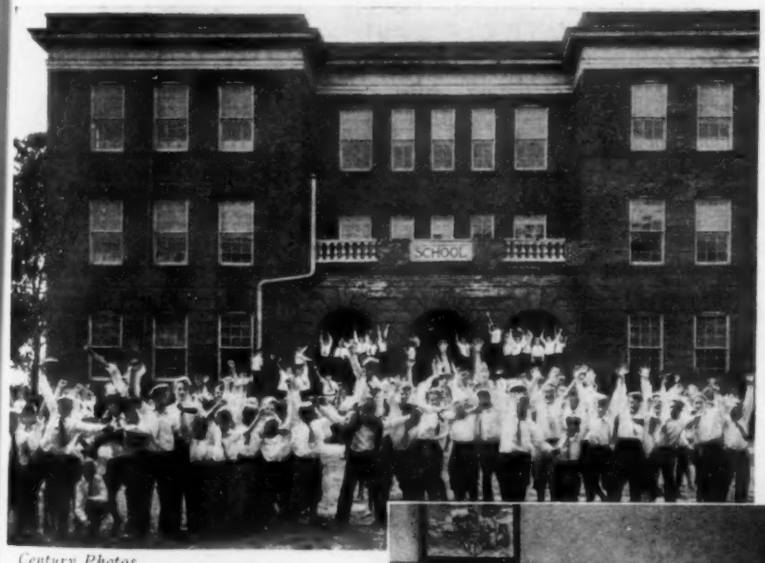

1635
1935
300 YEARS of SECONDARY EDUCATION in America
HISTORICAL DATA
· Furnished by
R. D. Matthews
Assistant Professor of Education
· UNIVERSITY of PENNSYLVANIA
Ernest W. Watson Cartographer
Boston Latin School 1635
Montana
Oregon
1914
Idaho
1880 Constitution provided for "a general, uniform, and thorough system of free schools"
1885 State High School Board, created to inspect and classify the high schools
N. Dakota
Minn.
1878 State high school law
Wisc.
Transportation of pupils authorized
1847
Mich.
1827 Law requiring township of 100 families to employ a grammar school master
N.Y.
1838 New Amsterdam
1848 N. Hampshire All factory children required to attend school 3 months each year.
1875 compulsory attendance
Vt.
Me.
Mass.
R.I. 1769 John Haskard barber founder of Pub. schools
Conn.
Horace Mann
Hartford Conn. 1638 Hartford Grammar School
New Jersey 1682 Quakers made first grant of land for public education.
1751 Franklin's Academy opened
Penn.
1796
Delaware income from marriage and wills, licenses used to support schools
1766
Wyo.
1840 Compulsory Education
S. Dakota
1911 High School departments of agriculture, manual training and domestic economy provided for
Nebr.
Transportation Law Enacted 1897
Iowa
1838 "Father" John Turner and the "Iowa Band" bring New England ideals to Iowa Territory
Ill.
1827 No man could be taxed for schools without his written consent
Ind.
Ordinance of 1787— Provides that one section in each township should be set aside for the support of schools
Ohio
Ky.
1827
W. Va.
Va.
Tenn.
N.C.
Miss. 1801 "First public female school"
1875 Constitution made mandatory separate schools for the two races
1754
S.C.
1856 Girls' High School established with Normal Dept.
Ga.
Ala.
Fla.
1925-27 Boom
Utah
Colo. Denver 1859 Private subscription school opened
Kansas
First Schools for the Indians operated by the Jesuits
Mo. St. Louis 1853 First public high school
1829 Income from school lands under management of judges to be used for the support of schools
Ark.
Okla.
1907 State Agricultural Schools Est.
Short Courses for Farmers during winter
Texas
1911 Rural High School Law. Granting State Aid to High Schools establishing courses in Agriculture Manual Training Domestic Science
Ia.
1902 1914
Nevada 1861 First territorial legislature enacted a law which contained all the provisions necessary for the beginning of a state's school system.
California
Arizona
1933 John Collier restores study of native arts to Indian Schools
1905 Union High School Law. First high school organized.
New Mex.
Julian Junipero Serra founded school for Indians at San Diego
1713
1784
Until 1909 Major portion of secondary schools chiefly under control of the Mormon Church.
1849
Students were once transported on Mississippi River Boats
First School in America
Additional High Spots in the Progress of Secondary Education
AMERICAN BOOK COMPANY
AMERICAN
1635 1935
300 YEARS SECONDARY EDUCATION

THIS YEAR MARKS THE TERCENTENARY OF SECONDARY EDUCATION IN AMERICA. (REPRODUCED FROM A MAP IN COLOR, COURTESY OF "SCHOLASTIC.")

Century-Allen

THE OLD LOG SCHOOLHOUSE WITH ITS DARK, POORLY VENTILATED ROOM, UNGRADED CLASSES, INFERIOR EQUIPMENT AND POOR SEATING ARRANGEMENTS WAS A MODEL OF WHAT THE SCHOOLHOUSE SHOULD NOT BE.

Century-Allen



Century Photos

"Reading, 'Riting and 'Rithmetic"

THEN and NOW

THE MODERN SCHOOL IS THE MODEL SCHOOL, SAFEGUARDING THE PHYSICAL AND MENTAL WELFARE OF THE PUPILS. PROPER VENTILATING, GOOD LIGHTING, CORRECT SEATING AND A HUNDRED AND ONE OTHER DETAILS COMBINE TO FURNISH THE BEST CONDITIONS DURING THE SCHOOL HOURS, WHICH FORM THE MAJOR PART OF THE CHILD'S DAY.

Century-Allen

THIS YEAR MARKS THE TERCENTENARY OF SECONDARY EDUCATION IN AMERICA. (REPRODUCED FROM A MAP IN COLOR, COURTESY OF "SCHOLASTIC.")

SCHOOL AND HEALTH

A Department Conducted by J. MACE ANDRESS, Ph.D.

67 Clyde Street, Newtonville, Mass.

The Use of Textbooks

THE NINTH ARTICLE IN A SERIES ON THE CLASSROOM TEACHER AT WORK

IN A RATHER recent trip to Europe it was my privilege to visit a number of schools. I was especially interested in the textbooks used abroad. Everywhere I found the foreign textbooks inferior to our own. One day I visited a school in a mountain town in eastern France. The master allowed me to look over the textbooks in his bookcase. How drab were the covers! How dull and uninteresting were most of the contents compared with the inviting and colorful school textbooks of America. In this school I found one book on physiology for pupils in the upper grades. It was everything that the name implied—a very dry book on anatomy and physiology with little reference to the care of the body. I found the Italian textbooks more attractive to children, but the health content was largely anatomy and physiology. In England the representative of an educational publishing house told me that there were no textbooks in health and that hygiene had no place in the course of study. None of the European textbooks on physiology seem to have teaching helps.

Though Europe is either without health textbooks or meagerly supplied with a type of textbook which we discarded long ago we teachers here in America find the press pouring forth stimulating health books for children. They cleverly subordinate anatomy and physiology to hygiene, and they are filled with suggestions on healthy living which are exceedingly helpful for teachers.

Without doubt such stimulating books are favorably influencing health teaching in America. However, there are two possible criticisms of the use of textbooks. The first is the possibility of merely getting children to commit to memory the facts in such books and thereby assuming that their health aims will be realized, that children will naturally practice what they have learned; the other is the danger of allowing the textbook to lead, rather than to be led by the vital health needs of children, and of using the textbook to help satisfy those needs.

The up-to-date teacher first determines by careful study the most pressing group and individual health needs of children and then directs her pupils to the study of the text to find out what is the best thing to be done under the circumstances. For example, one teacher, instead of following the textbook exactly in the order in which it was presented, was guided by the fact that there was an epidemic in the community. The question arose as to how the community could overcome the epidemic and what the children themselves might do to protect themselves against the disease. To find the answer to their questions they studied their textbooks with care. Another teacher noticed that a number of the children in the school had had bicycle accidents. This led to a study of how to ride bicycles safely, and the textbooks were searched for information.

As textbooks are often inadequate in supplying necessary information, reference should be made to the room, school and community library. Many teachers find it helpful to take children to the library and show them how to look up certain topics.

Magazines and newspapers offer much helpful material on health. Some teachers find it desirable to classify their clippings and pamphlet material in folders. This helps to preserve it and make it easily accessible.

Through the use of such supplementary material the subject matter of textbooks secures valuable aid. I should like to call the attention of teachers to the valuable supplementary material found in every copy of HYGEIA. Teachers who are interested in such possibilities in HYGEIA may send to the American Medical Association, 535 North Dearborn Street, Chicago, for a free copy of "Exploring HYGEIA, the Health Magazine, for Health Teaching Ideas."

Health Teaching in September

THE MONTH of September is one of the most important months of the year since for most boys and girls it marks the beginning of the school year and for thousands of children it also marks the very beginning of their school career.

There is an old German proverb which says "Aller Anfang ist schwer"—"All beginning is hard." Teachers are likely to interpret this with sympathy so far as the first days of school are concerned. They recall the hot muggy weather of early September, the difficulty of learning the children's names and getting them started in school. They remember also the restlessness of the children and their own mental and physical fatigue. "Yes," they would agree, "those first days of school are hard."

It is only within the last few years that we have begun to realize that the beginning of the school year is often exceedingly difficult for children, so difficult that if they do not get a good start they may have serious handicaps not only during the remainder of the school year but in some cases throughout life.

This difficulty is especially acute in the first grade where boys and girls are having their initial school experiences. What a change is taking place in their lives! For about six years they have been living within the shelter of the home. Their life has been largely one of free play. They now find that their liberty of action is greatly limited. Instead of using their minds and muscles in free play they must sub-

mit to a certain amount of confinement in the schoolroom and learn about the symbolism of words. They must learn how to get along with new companions and how to form habits. They may be fearful of the new. The school doctor, the school nurse and the teacher all emerge in this new environment. What the first grade child needs above everything else is the friendly hand of the teacher in order to gain early a sense of security. It is essential that pupils should learn to be successful if they are to enjoy good mental health.

In the past the school has failed ignominiously to adjust the work of first grade children to their capacities. As a result about one third of first grade children fail of promotion. Instead of finding school an inviting place leading to successful living they discover it to be a cruel world in which they can make little or no progress. Our knowledge of this unfortunate situation is already leading to welcome reform in education. Some school systems have decreed that children in the first grade shall not be allowed to have a sense of failure. They are to be made to feel that the point which they have reached is indeed praiseworthy. The idea that the teacher is an intelligent friend of her pupils should also dominate the work of teachers in the upper grades and the high school.

Though the opening days of school are difficult and trying for both children and teachers they offer a genuine opportunity to teachers. Here is a real chance to befriend boys and girls, to study their physical and mental needs and to start them in a courageous attack on the solution of problems that have meaning to them.

What physical and mental health needs of individual pupils will you be able to discover the first month of the school year?

✣ SOLVING HEALTH EDUCATIONAL PROBLEMS ✣

TEACHING HEALTH THROUGH A STUDY OF COMMUNICABLE DISEASE

ETHEL P. WOOLARD
Principal, Sylvan Park School
NASHVILLE, TENN.

Health teaching becomes absorbingly attractive when it concerns itself with problems of current interest to pupils, teachers and the community. Notice how the outbreak of an epidemic was capitalized by this Tennessee school. Is there any health problem of community interest which you can make the basis of your immediate health teaching?

THIS health project was carried out in a suburban elementary school which has an approximate enrolment of 400 children. The school is housed in four separate buildings which are very old. There are no modern facilities of any type. There are three drinking fountains and two outdoor toilets in the yard. In this situation a great deal of thought and most careful watchfulness on the part of each member of the faculty is required to afford and maintain a sanitary environment.

After the visit of the school doctors and nurses in the autumn of 1933, a number of most interesting problems presented themselves during the discussions which arose in both faculty and class meetings. These discussions became more frequent and the problems more urgent later as a result of the presence of a number of the diseases of childhood. Because of these existing conditions, the local Parent-Teachers Association also took an active cooperative interest and proved to be most helpful in carrying out this health project, which had its birth through this stimulus and which was developed and carried out by the pupils under the leadership and guidance of their own classroom teacher. First, facts were collected by the pupils and brought to class for study and discussion. Second, applications were then made of these observations in the development of correct habits, better attitudes and increased knowledge of the value of health and of the real danger of disease.

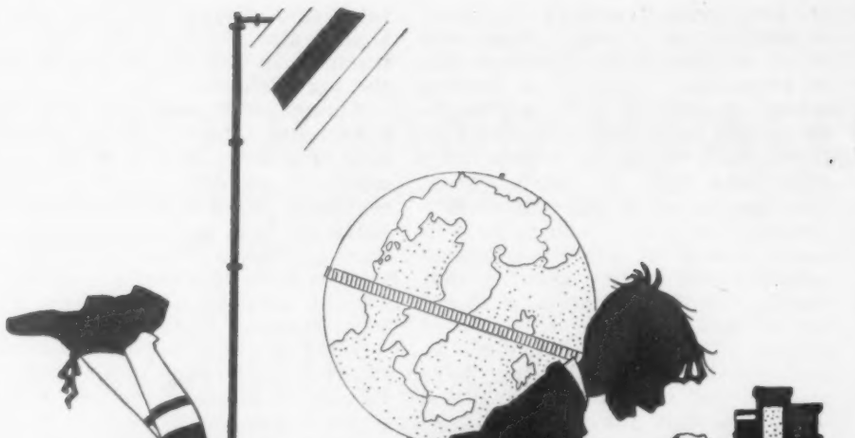
During the month of January many cases of measles, mumps and whooping cough and a few cases of trench mouth and chickenpox developed, and within a short time spread throughout our community. We had the poorest attendance ever recorded in the school's entire history. Each day, discussions arose in regard to the cause of the diseases and the methods of their communication from one individual to another. The teachers were especially interested to learn the early symptoms of these different diseases and the means of preventing their spread as much as possible.

Three of these major subjects were taken as problems to be studied and solved by the pupils of the third, fourth, fifth and sixth grades. They were as follows:

1. How may communicable disease be spread? 2. How may these diseases be controlled when once found to be prevalent? 3. How may these communicable diseases be prevented?

Under the first subject the study was based on attempts to answer questions of the following type: Are all diseases communicable?

(Photograph, courtesy of Federal Office of Education)



What are the first symptoms of a cold? What are the first symptoms of a communicable disease? Are colds classified as a communicable disease? Is the undernourished individual more susceptible to communicable diseases?

Answers to these questions were collected from the grade readers and magazines on health, and some of the children went to the library to get special information. They also had access to the reference books of the *Classroom Teacher* in which there is much valuable information. A number of the children also got information from their family physician.

After collecting all this material from the various sources named, a thorough study was made of them. The so-called facts that were not considered scientifically sound were discarded. The pupils discussed in detail the most important ways in which communicable diseases are spread.

The observations from the facts collected were then listed and studied by teachers and pupils. The following is a copy of this list:

1. Communicable disease germs often enter the body through the nose and mouth.
2. These germs are scattered in the air to a distance of from 10 to 12 feet when a person sneezes, coughs, laughs or shouts.
2. Communicable diseases are spread by kissing and by the use of the common drinking cups, towels, books or handkerchiefs.
4. Some diseases are spread by "carriers." These people may not show signs of the disease but are capable of giving it to others.
5. Insects may spread disease; for example, the fly may bring typhoid germs and the mosquito, malaria germs.
6. Communicable diseases may be carried by means of impure milk and drinking water.
7. Communicable diseases may be carried through food.

After a study of these facts the children became more conscious of personal habits and environmental conditions which promote good health in the community. Such desirable habits as keeping objects other than food and drink out of the mouth, keeping hands away from the face, bringing a clean handkerchief to school each day and the giving of special care in regard to cleanliness of cuts, wounds and scratches were stressed. One of the most important habits established through this study was the washing of hands by every child, each day before lunch. Because of the lack of modern facilities, this seemed at first to be a difficult problem. However, with the aid of the school administration and the Parent-Teachers Association, it was solved in a manner most satisfactory to both teachers and pupils and is now a part of our regular daily schedule.

The following is a description of the procedure used in handwashing without running water; the method followed was that taught by Aurelia B. Potts, associate professor of nursing education, George Peabody College for Teachers:

Purposes.—To establish habits of personal cleanliness; to protect children against infectious diseases; to enable children to keep equipment clean.

Important Points to Consider.—The method used should insure against spread of skin infections; should be economical of water and of time, and should provide for thorough washing.

Equipment Needed.—One pitcher holding from 1 to 2 quarts of water; one small oil can ("squirter"); liquid soap or dissolved soap flakes; individual towels; waste basket; pail for waste water; toothpicks if necessary for cleaning nails.

Method of Conducting.—Station a child as a monitor for each item in this order:

x	x x	x
Soap can	Pitcher of water and pail	Paper towels and waste basket

Children form in line and pass by in order. The first ones to complete washing hands take the places of the original monitors, so that every child has an opportunity to wash. Monitor with oil can gives each child liquid soap in his hands held together to form a cup. Child is instructed to rub the hands thoroughly as he passes on to the water monitor. Water monitor pours water from the pitcher over the hands, which are held over the pail which has been placed in a chair. Monitor of towels sees that each child uses one towel only. After hands have been rubbed until dry, towels are placed in waste basket. Towels are put away, waste water is emptied, and equipment is put away until needed again.

Another most desirable practice introduced and placed on the regular daily schedule was that of morning inspection. This proved to be of inestimable value in the stimulation of a desire for habits of personal cleanliness by the majority of the children in the school. The children became more careful about combing their hair, brushing their teeth and keeping their finger nails and their wearing apparel clean.

Problems 2 and 3 were studied in much the same manner as was problem 1, and interest was keen throughout the entire project.

As a result of this study and the deep interest manifested by the pupils, there was a definite carry-over into the homes of many of the children. The parents have been more cooperative, and a number of them have given permission to have their children immunized. It is hoped that all the parents will have their children inoculated against typhoid as a result of this program. Many of them this year had their own family physician give their children health examinations for the first time.

The teachers are fully agreed that this has been one of the most helpful projects ever attempted in our school.

To Contributors: — The editor of the School and Health Department will be pleased to receive articles dealing with the solution of concrete and practical health education problems in the school. Articles must not exceed 1,000 words in length. Stamps should accompany manuscripts to insure their return if rejected. All articles accepted will be paid for at regular rates. Address Editor of School and Health Department of HYGEIA, *67 Clyde Street, Newtonville, Mass.*

THE "WHY" OF SOME HEALTH HABITS

BELLE L. DICKSON
Supervisor of Intermediate Grades, Humbolt State Teachers College
ARCATA, CALIF.

Again Miss Dickson carries us into a fifth grade classroom and demonstrates how children may be taught to think about the reasons for forming health habits. Do your pupils know why they are forming certain health habits? What do you find in Miss Dickson's plan that you can use in your teaching?

Aims.—To enable the child to see a definite reason for some health habits that his mother and teachers have been trying to have him form; to enlist the child's cooperation through stimulating a favorable attitude toward health and the practice of health habits.

Materials.—Health Training in Schools (Dansdill, p. 270); Health in Home and Neighborhood (Bigelow & Broadhurst, Chapters 1 and 2); Booklets issued by Metropolitan Life Insurance Company (How to Live Long; Sunlight, the Health Giver; The Importance of Posture; The Family Food Supply; All about Milk); Course of Study in Health Education (Butte County Schools, California); The Dental Lesson (Colgate Company); Outline for Cleanliness Teaching (Cleanliness Institute).

Procedure.—Introduction: The other day a teacher said to a little boy who came in five minutes late, "Johnny you seem to have the habit of coming late. Being *late* is a bad habit. I'm glad that most of the children in this room are always on time. Being *prompt* is a good habit." What did that teacher mean by a bad habit and a good habit? Let's see what the dictionary says about the meaning of *habit.* (Custom, practice, tendency to repeat an action.) On the board I have listed some habits. You will recognize in them certain health habits. Ever since you first started to school your teachers have been trying to help you form these habits, and your mothers taught them to you long before you came to school. We just said that a habit was an action repeated over and over again. Now think carefully, which of these health rules do you practice regularly without being reminded? You may write your name under each one that you have really practiced until it has become a habit.

Motivation: If some one should ask you *why* you drink milk every day, how many reasons could you give? Or, if some one asked why you breathe fresh air, could you explain the value of fresh air? It might be interesting to see how many reasons we can find. There are books on the reading table which tell some of the reasons. You may each choose a habit and see how many reasons you can find for practicing it.

Eradication of difficulties: I have looked up one topic for you and placed the reasons on the side board. You remember last year we compared the body to a furnace in its use of fuel and its need to get rid of the ashes. You may copy the "whys" for this health habit before you begin working on the one you have chosen.

Activities.—Discussion as to what a habit is; looking up and defining habit; reading list of habits and thinking over our own; checking at board the habits we have formed; making a Book of Reasons, each contributing one page; reading reasons for one habit from board and copying; choosing one habit and searching through health materials to find several reasons for practicing it.

Follow-Up Work.—Putting materials together, making a Book of Reasons.

Book of Reasons

WHY KEEP CLEAN? Page 1

Keep clean because you look nice and people like you better.

If you do not keep clean you may have an unhealthy skin and you may carry disease germs into your mouth.

Take enough warm baths a week to get rid of any disagreeable odors.

WHY KEEP THE TEETH CLEAN? Page 2

Figure 1: Drawing to show how each tooth is shaped for the work it has to do. Figure 2: Drawing to show a sound tooth and a decayed tooth (The Dental Lesson, p. 5).

Eat milk, fruits, vegetables, cereals, toast and other hard foods to give the teeth exercise and make them strong.

Clean the teeth regularly to get rid of tiny food particles because they will cause decay and toothache.

Brush the teeth night and morning because, especially at night, the bacteria have a long time to work.

Use a brush with bristles of uneven length so you can reach all the surfaces. An up and down motion is best.

Use a good paste for cleaning. Salt is good.

Visit a dentist twice a year because even keeping the teeth clean does not always prevent decay. The dentist will keep your teeth white and find any small cavity.

WHY FORM GOOD HABITS? Page 3

Eat a variety of foods because your body has several needs to be filled.

Eat only a moderate amount of candy, and eat it after your regular meal because when eaten between meals it sometimes causes indigestion and destroys appetite.

Eat three meals a day for strength, energy and growth.

Eat slowly, so your food is ready when the stomach starts to do its work.

WHY DRINK MILK? Page 4

Drink four glasses of milk a day because it contains protein to build muscle and repair tissues; it contains mineral salts to build teeth and bones, rich blood and tissues, and it will help to keep you well; its fat and sugar will keep you warm and give you energy, and its vitamins will make you grow and will help to prevent disease.

Drink milk because it is the most nearly perfect food.

Drink milk because it contains iron, lime and phosphate needed for bones.

WHY EAT FRUIT DAILY? Page 5

Eat fruits because "they add water, sugar, minerals, to your diet."

Eat both fresh and stewed fruits because they are good regulating foods.

Eat prunes, apples and oranges because they contain vitamins and are regulating foods. Vitamin C, which is found in such fruits as oranges, lemons and grapefruit, prevents scurvy.

WHY EAT VEGETABLES? Page 6

You need some foods which do not digest completely, to help carry off the waste through the intestines. Eat one leafy vegetable daily because it will furnish bulk and help sweep out the intestines.

Eat green vegetables because they contain some mineral matter needed in the blood and in making strong

teeth. Eat dried peas and beans because they are building foods.

Eat two vegetables daily because they contain minerals and vitamins.

When you cannot get oranges, eat tomatoes because they furnish three vitamins.

Eat root vegetables, such as carrots, turnips and beets, because they furnish vitamins and minerals.

Eat onions, spinach, cabbage, lettuce and other greens because they contain vitamins and are regulating foods.

Vitamin A protects from diseases of the nose, throat and lungs. It is found in carrots, sweet potatoes, turnips, lettuce, squash and spinach. Vitamin B is in carrots, asparagus and tomatoes. Vitamin C is in tomatoes, potatoes, rutabagas, onions and spinach.

WHY GET RID OF WASTES? Page 7

Eat some regulating food each day because your body must get rid of waste material.

Waste material not eliminated will make you ill. Getting rid of the body's waste material is necessary to keep you well and strong.

WHY BREATHE FRESH AIR? Page 8

Keep window open in the room where you are working because people who breathe fresh air are less likely to have colds.

Let the sunshine in because sunshine kills germs and helps you to think better.

Spend some time outdoors each day because the air outside is more healthful than the air inside.

Breathe fresh air because it will help to make you strong.

Keep your windows open at night because the fresh air is good for you. If your windows are opened at night you will feel more rested in the morning.

WHY EXERCISE EVERY DAY? Page 9

Take plenty of exercise every day because this helps you to get rid of waste material and is better than having to take medicines.

Exercise is beneficial because it makes you stand erect and breathe deeply.

Exercise increases the circulation and makes your appetite better.

Exercise develops your muscles and makes them strong.

WHY SEEK GOOD POSTURE? Page 10

Stand and sit erect because you look better.

Carry yourself erect because it will help you to avoid constipation and to keep healthy.

Walk with toes pointed straight ahead because toeing out makes you flat-footed.

Keep erect because only then can your organs stay in their proper position and carry on their work as they should.

WHY DRINK WATER? Page 11

Drink enough water or other liquid each day because water helps to carry off the waste through the skin and kidneys.

About 70 per cent of the weight of the body is water, and since the body gives off a good deal of water as perspiration, the supply must be renewed.

Water is needed to help dissolve the food in the stomach and intestines.

The plasma, or liquid part of the blood, is largely water carrying dissolved food to the tissues. It also carries carbon dioxide back to the lungs where it can be breathed out. It collects wastes and carries them to the kidneys.

Drink enough water to satisfy thirst because the kidneys need that much to dissolve the waste substances to be removed from the blood.

Water is needed for the growth and health of the body.

WHY VALUE SUNSHINE? Page 12

Stay outdoors in the sunshine all you can.

Taking a daily sun bath is good if you expose the body to the air and the sun's rays a few minutes at first and then gradually longer.

"Exposing the body to the air makes you cooler." The body tries to keep warm, and you breathe deeper and take in more oxygen, and the oxygen makes rich red blood.

Sunshine helps to prevent colds and influenza.

The ultraviolet rays act on the cells in the skin and on the blood in the skin capillaries.

A sun bath makes you have more energy.

A sun bath makes your mind more active.

The sun's rays can kill germs.

Take your sun bath in the early morning or late afternoon because there is more light without so much heat.

Sunshine is as necessary for growth and health as is food.

THE STUDY OF FOODS BEGINS IN THE CAFETERIA

HELEN VICKERY
Foods Teacher, Bosse High School
EVANSVILLE, IND.

All good health teaching is based on the real needs of pupils. This story begins with high school pupils checking up on the lunches selected by the student body. This study suggested what should be taught. Do you know what food choices your pupils are making?

IN OUR high school we have an excellent cafeteria. The food is well selected and prepared, and the women in charge are very pleasant about cooperating with the household arts department.

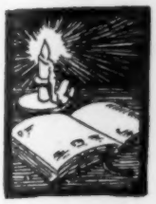
We decided that we could make our work in the study of balanced luncheons interesting as well as practical by having some of the work done in the cafeteria.

The first lesson was devoted to observation of the lunches selected by the student body. This was discussed in the next lesson. The selections were so poor as a whole that the class was greatly concerned.

The following lesson was given over to making posters showing good food combinations. Each day a group of girls from the class planned menus, costing 10, 15 and 20 cents, that were well balanced as well as palatable and filling. A menu for the athletes in training was also chosen from the cafeteria list. These menus were posted outside the cafeteria.

The next project was in charge of committees from the class. These girls stood at the end of the counter when the lunches were paid for, and while the cafeteria cashier counted up the cost of the lunch the girls graded it. The school grading system of "E" for excellent, "G" for good, "P" for passing and

(Continued on page 856)



New Books on Health

NUTRITION AND PHYSICAL FITNESS

Second edition. By L. Jean Bogert, Ph.D. Cloth. Price, $3. Pp. 566, with 65 illustrations. Philadelphia and London: W. B. Saunders Company, 1935.

THIS IS the second edition of a book which has found considerable favor for its clearness and completeness. The author has put a tremendous amount of information into simple and readily understandable terms. The book is in five principal parts, of which the first is devoted to the characteristics of foods; the second to the body requirements for foodstuffs; the third to body processes in the utilization of foodstuffs; the fourth to meal planning, and the fifth to diets for special conditions. The book is well planned and well executed. There are numerous useful tabulations, employing in many instances the contrast between the good and the bad, as in an evaluation of recent trends in American dietary habits. In the preface to the second edition occurs a statement to the effect that a surplus of vitamins may play an important part in promoting health and preventing disease. This is likely to play into the hands of the food faddists and unscrupulous purveyors of vitamin preparations. A careful examination of the chapters devoted to vitamins, however, does not give support to the forecast in the preface, since the sections on vitamins appear to be sound. Physicians probably will question the wisdom of discussing so extensively and illustrating so graphically the effects of extreme vitamin deficiencies which are not ordinarily to be expected in the average American diet. Among the best chapters are those on how to build menus for a day, for a week and for a season; the chapter on food economics and influences of cooking, and the chapter on food fads and fancies, which includes an excellent tabulation, of the deadly parallel type, in which food fallacies are set opposite the truth. The author has perhaps a slight though not very serious tendency to overestimate the importance of considering acid residue and basic residue foods and their selection and proper proportions as an important consideration in the building of a diet. The sections on diets for special purposes are written with a proper appreciation of the importance of medical advice in prescribing diets. There is an appendix giving a list of 100-calorie portions of common foods, tables of average heights and weights for men and women and for boys and girls. There is a good index. The value of this book and its usefulness cannot be questioned.

W. W. Bauer, M.D.

PSYCHOANALYSIS FOR TEACHERS AND PARENTS

By Anna Freud. Cloth. Price, $1.75. Pp. 128. New York: Emerson Books, Inc., 1935.

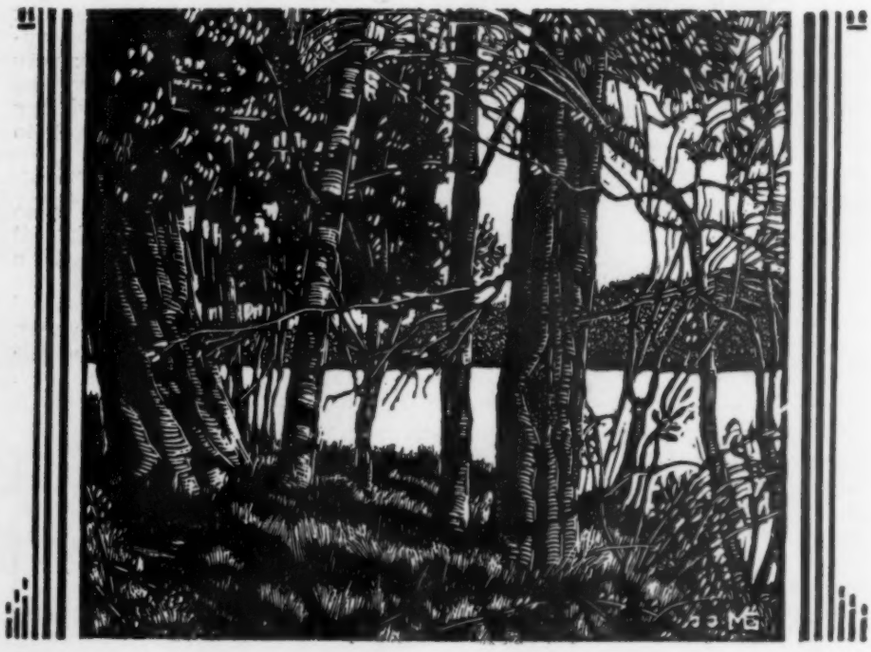
THIS BOOK is a compilation of four lectures, delivered before the teachers at the Children's Centres of Vienna: Infantile Amnesia and the Oedipus Complex; The Infantile Instinct-Life; The Latency Period, and The Relation Between Psychoanalysis and Pedagogy.

For those who wish a primer of the freudian principles the material is presented concisely and with an almost diagrammatic clearness. However, in the hands of the uninitiate, for whom the volume is obviously intended, such information may be as dangerous as dynamite. It is generally conceded that a little knowledge is a perilous thing, for it may lead to abuse, misapplication or a wholesale application of principles that are not fully understood. A finely balanced mind and a discriminating judgment are essential for the judicious application of the theories presented. In the hands of teachers and parents who have had no background of psychologic training, such a treatise may easily become a two-edged sword, injuring both themselves and the children in their charge.

For those who have already subscribed to the freudian psychology the book has, of course, nothing new to offer.

Leola J. Harris.

[Note.—Books reviewed or mentioned on this page, other than those published by the American Medical Association, should be ordered from booksellers or direct from the publishers. They may not be ordered through Hygeia or the American Medical Association.]



QUESTIONS AND ANSWERS

Action of Ginger Ale on Aluminum

To the Editor:—I am informed that you will be able to give me a description of the action of ginger ale on aluminum. Is the carbonic acid in ginger ale strong enough to act on the aluminum in any way, even if the aluminum is left in the ginger ale for several months?

W. I. T., Indiana.

Answer.—The surface of aluminum metal soon becomes coated with a thin layer of aluminum oxide which readily resists chemical action and protects the surface from further oxidation. This oxide coating is gray. Rain water corrodes aluminum, but the process stops when the corrosion layer is exceedingly thin, since the oxide coating is highly resistant to further chemical action.

While carbonic acid would doubtless tend to corrode a polished surface of the metal, the product formed would be highly insoluble and would remain adherent to the surface. The amount of aluminum that would go into solution in carbonated ginger ale would amount to only insignificant traces and would be without physiologic effect on the user of the beverage.

When small amounts of soluble aluminum salts are ingested with food or drink the metal is converted into an insoluble phosphate that is not absorbed by the intestinal tract. Small amounts of aluminum in foods or beverages are without real physiologic significance.

Diaphragmatic Hernia

To the Editor:—Will you kindly send me information on diaphragmatic hernia?

J. H., New York.

Answer.—This query was evidently prompted by the publicity which has been in the newspapers about the child whose abdominal organs were removed from her chest and put back where they belong.

Diaphragmatic hernia means that there is a defect in the diaphragm. The diaphragm is a large horizontal structure of muscle and tendon which divides the chest cavity from the abdominal cavity. It is quite thin but strong. When the individual inhales, the ribs are raised and the diaphragm is pulled downward, thus allowing the chest cavity to become larger and air to rush in. On rare occasions the diaphragm is defective in that one side of it may be absent, partly absent or weakened. In such cases the upward pressure of the abdominal organs encroaches on the chest cavity and crowds the lungs. It was to correct this condition that the extremely difficult operation was performed on the child in whom newspaper readers have taken so much interest.

Diet in the Treatment of Epilepsy

To the Editor:—My 10 year old daughter has been having epileptic seizures for the past fourteen months. Prior to this time she has always been a normal, healthy child, well developed and never underweight. She has been hospitalized twice. She went through the various tests, but the results were negative. I find it difficult to keep her to an exceedingly fatty diet with little variety to offer. If you have a varied ketogenic diet for a child her age will you please send it to me?

Mrs. G. C., New York.

Answer.—A ketogenic diet is so troublesome and tiresome that it should not be continued beyond a month or two, if by its use the attacks are not greatly diminished in frequency or severity. However, before discarding it one must be sure that the diet really is ketogenic. The only way to be sure of this is to have the child's urine tested for the presence of certain acids, called ketone acids, which are formed when a diet very rich in fat foods and very poor in starchy foods is eaten. If this test is not positive, the diet is incorrect, and no good results can be expected.

To increase the fat in the child's diet, butter may be used liberally on the vegetables and heavy cream should be used in place of milk. The following is a diet suitable for a child weighing 60 pounds.

Breakfast

100 Gm.* grapefruit or melon
20 cc. olive oil
1 egg
10 Gm. butter
100 Gm. 40 per cent cream

Dinner

50 cc. vegetable soup and
100 cc. 40 per cent cream
40 Gm. meat
50 Gm. 5 per cent vegetables
20 Gm. lettuce
20 Gm. olive oil
15 Gm. pecan nuts

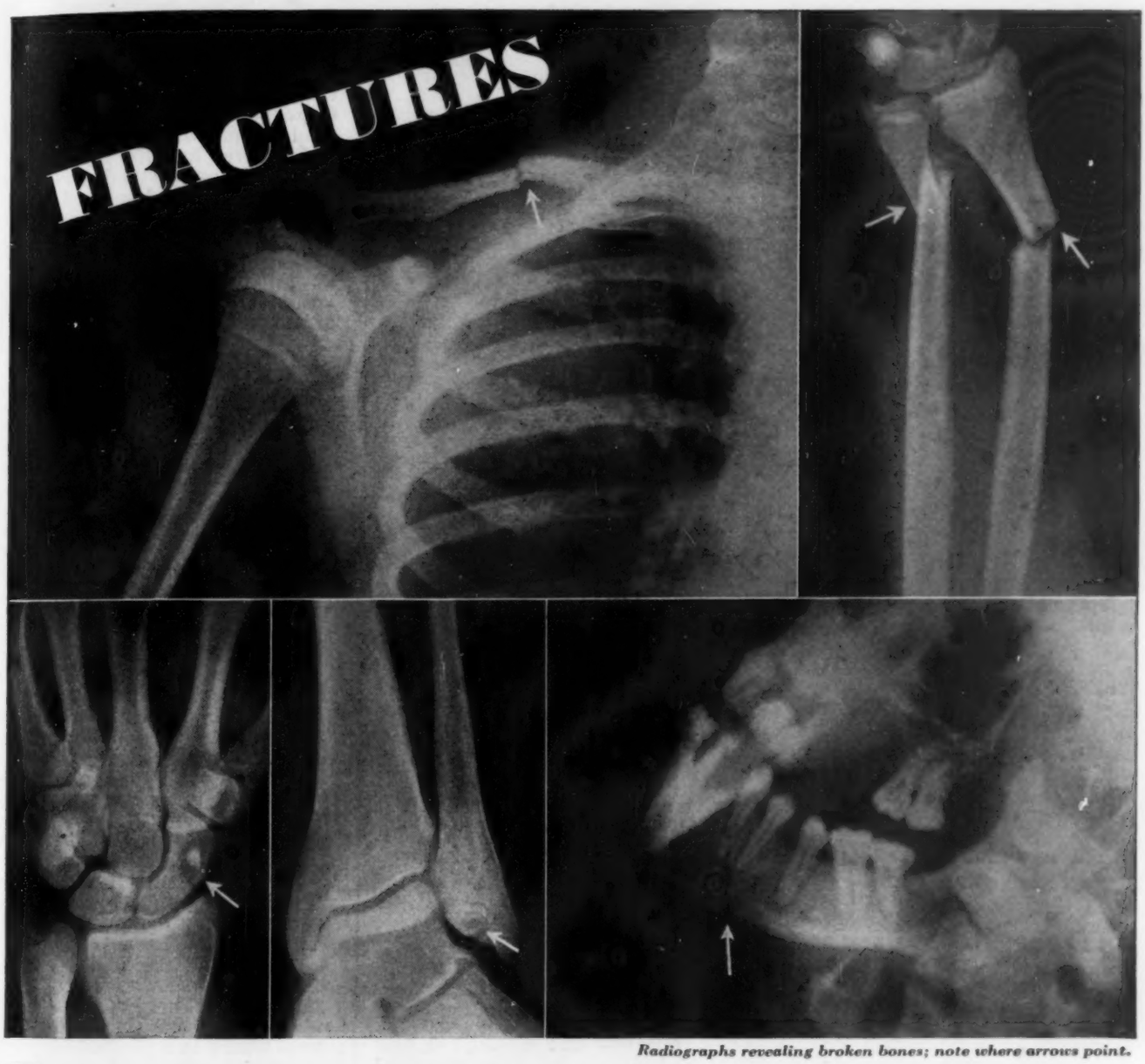
Supper

Eggnog, 1 egg and
100 Gm. 40 per cent cream
50 Gm. 10 per cent vegetables
20 Gm. peanut butter
2 crackers

* 30 Gm. or 30 cc. equal 1 ounce.

The items of this diet can be changed, so long as the proportion of fat food (bacon, cream, butter, olive oil, yolk of egg) to the combined amount of meat and starchy food is not lowered. In order to make any changes, one would need to have scales for weighing food and a list of foods with the proportion of fat, carbohydrate and protein that each food contains. Reference may be made to "The Chemical Composition of American Food Materials" by W. O. Atwater and A. P. Bryant, Bulletin 28, revised edition, U. S. Department of Agriculture, Washington, D. C., or to Dr. Elliott P. Joslin's "Diabetic Manual," fifth edition, 1934. However, it would be better to consult one's doctor or attend the outpatient department of a hospital where there is a diabetic or a dietetic clinic. In this way, weekly tests of the urine may be made and instructions given for carrying out the test at home.

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a three-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.



Radiographs revealing broken bones; note where arrows point.

TRAFFIC accidents, falls, everyday knocks and bumps—all are causes of many obviously serious injuries as well as apparently minor hurts. But even a sprain or an extensive bruise should not be dismissed casually for they may harbor a possible fracture. Unless the full extent of the injury is determined, so that it may be given proper care, permanent impairment may result.

While your physician cannot prevent these accidents, he can, through x-ray examination, determine just how serious is the result. Even those breaks which are obscure and might be unsuspected can be revealed. And with the great strides that medical science has made, there is every assurance that, under proper treatment, broken bones will resume their normal function.

Whenever there has been the possibility of a broken bone—in every case of bruise or sprain—a radiographic examination should be made. Omission of the x-ray examination is dangerous neglect.

If a fracture is revealed, additional radiographs are advisable after setting, to check up on the position of the bones. During healing, also, radiographs should be made to follow up its progress.

We shall be very glad to mail you an interesting booklet, "X-rays and Health." Merely fill in and send this coupon.

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Sniffles!

"I'm sorry, but Anne is in bed. She has the sniffles and I can't let her go to school or play with anybody until she is well again."

WISE mother. She knows that sniffles may be the forerunner of any one of several infectious diseases and she helps to protect other people's children while she protects her own.

A mild case of sniffles may seem so unimportant at first that little or no attention is paid to it, but it may be the warning symptom of a threatened attack of measles, whooping cough, scarlet fever, diphtheria, or influenza. These diseases, combined, cause about one in every five deaths of children between the ages of one and nine.

The child who is "coming down" with one of these diseases is likely to spread the germs in class at school or to give them to other children at play.

An attack of measles may be a simple affair, soon over; but sometimes it causes serious complications—injured eyesight, deafness. Whooping cough may so reduce resistance that the child is more susceptible to pneumonia or tuberculosis. Scarlet fever frequently affects the kidneys and ears. All of these diseases—including diphtheria—may affect the heart and leave it permanently weakened.

If your boy or girl seems well one day and develops a case of sniffles the next, the child should be kept at home under close observation and should not be permitted to play out-of-doors or with other children. If there is no improvement within twenty-four hours and the child is feverish, send for the doctor.

Any or all of the following booklets will be mailed free on request: "Measles," "Whooping Cough," "Scarlet Fever," "Diphtheria," "Colds, Influenza, Pneumonia." Address Booklet Department 935-Z.

METROPOLITAN LIFE INSURANCE COMPANY

FREDERICK H. ECKER, PRESIDENT ~ ONE MADISON AVENUE, NEW YORK, N. Y.

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Oppenheim's Disease

To the Editor:—Will you kindly advise me regarding the cause, symptoms and treatment of Oppenheim's disease in a child, aged 20 months? He is bright and active, but he falls every time he tries to stand or crawl. He cannot keep his head erect and is continually constipated. I am told that electrical treatment may be of help and that he may have to wear a brace when he is about 3. What is the record of cures in this disease?

M. H. R., New York.

Answer.—Oppenheim's disease, otherwise known as amyotonia congenita, is an extremely rare condition. The symptoms are usually present at the time of birth. The muscles of the lower extremities, and to a lesser extent of the upper extremities, are relaxed and have little power. The muscles of the back and neck may be weak, so that the child has difficulty in holding up the head or in standing erect. In some cases the intercostal chest muscles are affected, so that the chest does not expand well during breathing. A weakness of the muscles of the abdomen may result in a tendency to constipation. The child is "loose jointed"; he may be able to lie with the head touching the feet. The only nerves that are affected by the disease are those supplying the muscles. There are no changes in sensation and no involvement of the brain. The cause of the imperfect development of a part of the nervous system is unknown. It does not appear to be due to any disease in the parents or in remote ancestors. Fortunately the condition is not progressive but tends to improve as the child grows older. There is a gradual increase in muscular power. Improvement is very slow, however. There is no form of medical treatment that effects a definite "cure," although massage, electrical treatment, sun baths and exercises sometimes seem to hasten improvement. Braces on the legs are not usually required and do not give much assistance in walking. Some support of the spine and neck may, however, be helpful, and an abdominal binder or support is of assistance in relieving the constipation so far as this is due to weak abdominal muscles. Aside from the muscular weakness the child is likely to be healthy in every way, mentally and physically.

Happy the man who can endure the highest and lowest fortune. He who has endured such vicissitudes with equanimity has deprived misfortune of its power.—*Seneca.*

Do You Know—

1. The real value of the school report card? *See page 776.*
2. Who was the first great clinician? *See page 778.*
3. What disease may be prevented by the wearing of shoes? *See page 781.*
4. In what ways the pupils in the nursery school educate their elders? *See page 782.*
5. One of the surest means of bringing about a mutual understanding between parents and children? *See page 786.*
6. The best types of books for children of various ages to read? *See page 791.*
7. That some drugs taken internally have been known to cause skin lesions? *See page 795.*
8. That a child who is forced to change his natural tendency to be left-handed is subject to speech disturbances? *See page 798.*
9. How diphtheria can be prevented? *See page 804.*
10. Why toe dancing should be forbidden for children? *See page 806.*
11. What are the conditions within one's power of control, the things one should do and the things one should not do, in order to preserve good eyesight throughout life? *See page 810.*
12. What remedy is considered by the Zulus to have power over every known disease? *See page 817.*
13. The difference between chocolate and cocoa? *See page 820.*
14. How much time should be devoted to tooth-brushing? *See page 824.*
15. That the unhealthy personality of some adults represents the cost of coddling during childhood illnesses? *See page 830.*
16. Whether girls are physically fit to stand the strain of basketball? *See page 834.*
17. The essentials of good posture? *See page 836.*

While you give them an Education . . . KEEP THEIR

EYES *Unimpaired*

DESPITE the splendid eye-protection work of School Health Departments, it still remains true that defective sight increases directly in proportion to the time devoted to studies.

Typical positions of books, body and eyes during school work cause visual strain and permanent defects . . . unnecessary penalties for educational progress.

The probability that good vision will survive school years is increased by use of American Universal Better-Sight Desks. *Eyestrain is minimized* by features which enable the pupil to study in erect posture with book supported at correct height, focal distance and angle of vision—and with the page effectively illuminated.

The American Universal BETTER-SIGHT DESK

In every community, public cooperation in replacement of obsolete types of school desks will be of assistance to educators who thus seek to protect the physical and mental welfare of school children.

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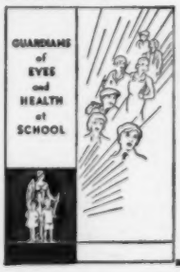

If you have a child at school, or will have, you need this interesting, enlightening booklet. Fill in and mail the coupon for a free copy.

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Grand Rapids, Michigan

Please send me, without cost or obligation, a copy of your booklet, "Guardians of Eyes and Health at School."

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THE PUBLIC SCHOOL IDEAL

The public school is the positive and definite measure of a community's awareness of parental and civic responsibility and obligation. Let us build for our children school homes that are clean and safe, symbols of our hopes for them and our faith in the future of the community. The investment made in school buildings is returned many fold in human dividends, for the personality of children reflects the refinement with which it is surrounded. The school lifts the level of mankind's ideals through the wholesome physical environment it provides as well as through its rich intellectual and spiritual life. Fortunate is the child who can have daily contact with good taste in his school home. Order, quiet, beauty, good equipment, play space, work rooms, gardens, safety, fresh air, abundant light and cleanliness are as important for the school home as for the parental home.

The beauty of the modern school is not achieved by extravagant ornamentation. Careful planning may produce architectural balance, grace and symmetry in outline, harmony of color, strength and dignity of material with an economy that is consistent with the ideals of thrift and simplicity of living which it is the purpose of education to instil.—*Research Bulletin, National Education Association.*

WHAT IS A LIBERAL EDUCATION?

That man, I think, has had a liberal education who has been so trained in youth that his body is the ready servant of his will, and does with ease and pleasure all the work that, as a mechanism, it is capable of; whose intellect is a clear, cold logic engine with all its parts of equal strength and in smooth running order; ready like a steam engine, to be turned to any kind of work, and spin the gossamers as well as forge the anchors of the mind; whose mind is stored with a knowledge of the great and fundamental truths of nature and of the laws of her operations; one who, no stunted ascetic, is full of life and fire, but whose passions are trained to come to heel by a vigorous will, the servant of a tender conscience; who has learned to love all beauty, whether of nature or of art, to hate all vileness and to respect others as himself.

—*Thomas H. Huxley.*

Keep the faculty of effort alive in you by a little gratuitous exercise every day.—*William James.*

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"NO FASTENINGS"

(Pat. App. for)

For Baby's Health, comfort and safety, and for mother's convenience, VANTA created "No Pins —No Buttons"; then came Sun Suits, the "Silva" Lining, and Steam Sterilizing. Now comes an even more sensational advance—complete dressing with no fastenings.

Doctors say, don't handle babies more than necessary—makes them nervous, bad for their health—dress them the VANTA way.

Ask your dealer for VANTA. Every mother knows they are made of the finest of materials, with the most expert modeling; always made under the best of working conditions.

Earnshaw Knitting Company

Newton, Massachusetts

Vanta

BABY GARMENTS

NO PINS, NO BUTTONS

MORALE IS ESSENTIAL TO COMPLETE RECOVERY

A patient is not playing the game squarely with himself when he adopts the worrying, peevish, fault-finding habit. Worry, so common to so many people, has never accomplished anything. The subject of morale is discussed at length in *The Hoosier Res-cuer.*

Healthy-mindedness, optimism and courage are invaluable assets and should be assiduously cultivated. Health of body and mind act and react on each other—"a merry heart doeth good like a medicine."

The question of morale in regard to illness of any sort is much discussed but often little understood. When a physician sees the morale of his patient ebbing away and fear and worry gaining ground, he realizes that this patient's mental attitude is not suitable to accomplish the most for the opportunity afforded him to take a cure.

So many patients cross bridges before they get to them. Worry about useless things has a bad influence on the course of the disease by its depressing action on the physiologic functions of the body. The patient should learn to pass the crises unruffled, no matter what happens, and then he will be much more apt to pass them successfully.

The effects of emotions on the body are well known. Man should cultivate and practice a religion of healthy-mindedness, courage, optimism, patience and reverence, free from hate, jealousy and envy; for these last will cause mental indigestion, much more disastrous than indigestion of the gastro-intestinal tract. The secret of serenity is the ability to control the attention.

In the words of Dr. Lawrason Brown, "The most important thing is to be able to control one's self. If a man does not develop self control while he is 'curing' so that when he is asked to do things he knows he should not, and to which he cannot say 'no', then his time has been lost."

His is the position to determine whether he will make daily progress to the heights or remain in the valley, the resting place of good resolutions that die in infancy.

The reactionary is like the man who has missed his train, in that both have been left behind. There is this difference, however; the man who missed the train knows *why* he missed it. The reactionary doesn't know *why* the world has gone off and left him.

—*Leslie D. Kline.*

WISHES

I have a feeling there would be
The most delightful thrills
In spending lots of money on
A heap of dainty frills;
In dozing quietly in bed
While all the world rushed by
And know that I could just relax
And lie, and lie, and lie.
Ah, that's a dream that is a dream,
The vision of a fool.
Because, alas, I must confess
I spend my time in teaching school.

I've always yearned to loll and read
Down by a southern sea,
And feel the spray of restless surf
Come dashing over me;
To watch the seagull's tireless flight
Across the setting sun,
And know that blessed leisure time
Had only just begun.
But I must rush at half past six
For books, and pen, and rule,
And get myself equipped once more
To spend the day in teaching school.

I've wished that I could send a song
Out quivering on the air,
So sweet that it would touch men's hearts
And leave its impress there.
Or paint a canvas with such skill
That it would be a shrine
Where beauty-loving man might sit
And think on thoughts divine.
But dreams are only flimsy things
That need a shining tool.
And yet it may be after all
That I shall find it teaching school.

—Eva H. Carstensen in *Midland Schools.*

The greatest works of human genius—the books and plays, the music, sculpture and paintings—must be enjoyed as they were produced, alone. The quality of pleasure they give is finer and more enduring than any other. Perhaps that is because they are the most human possessions we have. Our herd instincts we share with many other animals, but our culture is ours alone. For when we create or enjoy art and literature we are giving expression to our humanity, that quality that distinguishes us from dogs, horses, or sheep—our minds.—*Scholastic.*

Power and responsibility gravitate to him who is ready.

In the long run every man has to depend upon his own mind.

Keeping awake days picks more golden apples than lying awake nights.

—*Florida Dental Journal.*

Little things are great to little men.—*Goldsmith.*

Growing fast...

AND GAINING WEIGHT, TOO

Since he began drinking milk this way

YES, indeed—he'll soon be as tall as you are, Dad. And maybe *taller*. He's growing fast, and he's *filling out* while he grows. For his diet is *right*. Growing children need a quart of milk a day; and since his mother began giving him Cocomalt mixed with milk, that youngster of yours is gaining in double-quick time! For Cocomalt not only makes children adore milk but, when made as directed, Cocomalt almost DOUBLES the food-energy value of milk!

Supplies important food essentials

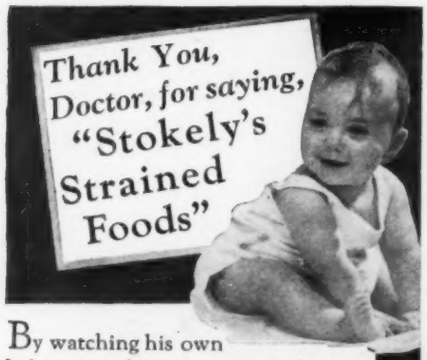
Cocomalt supplies *extra* carbohydrates which provide food-energy needed for pep and endurance. It supplies *extra* specially valuable proteins that help replace used or wasted muscle tissue—for building solid flesh and muscle. It supplies *extra* food-calcium, food-phosphorus and Sunshine Vitamin D (81 U.S.P. units per ounce) for the formation of strong bones, sound teeth. Cocomalt has a delicious chocolate flavor that children love. It's a wonderful treat for guests, too. It is sold at grocery, drug and department stores in ½-lb. and 1-lb. air-tight cans. Also in the economical 5-lb. hospital size. In powder form only, easy to mix with milk—delicious HOT or COLD.

SPECIAL TRIAL OFFER: For a trial-size can of Cocomalt, send name and address (with 10¢ to cover cost of packing and mailing) to R. B. Davis Co., Dept. JA-9, Hoboken, N. J.

Cocomalt

Prepared as directed, adds 70% more food-energy to milk

Cocomalt is accepted by the Committee on Foods of the American Medical Association. Prepared by an exclusive process under scientific control, Cocomalt is composed of sucrose, skim milk, selected cocoa, barley malt extract, flavoring and added Sunshine Vitamin D. (Irradiated ergosterol.)



By watching his own baby eat, a doctor gets a good idea of other babies' preferences. So it's important to know that scores of doctors write, "My baby prefers Stokely's because they taste good." Their finer flavor comes from choice products prepared to retain natural flavor and food value in high degree—correctly seasoned and protected in golden enamel lined cans. All ready to heat and serve. ASK YOUR DOCTOR. Write for FREE Booklet. Stokely Brothers & Co., Inc., 2301 South East Street, Indianapolis, Ind.

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Of Sterility and Fertility in Women

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FREE PAMPHLET

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SCHOOL AND HEALTH

(Continued from page 848)

"F" for failure was used. The whole student body entered into the idea, and there was great rivalry for the "E" luncheons. At the end of the week, a decided improvement was observed.

The parents gave excellent cooperation. We had given the project publicity through the parent-teacher club and through the newspapers. Parents showed their interest by inquiring what grades their sons and daughters were receiving.

We felt that the project had been beneficial to all concerned. The girls had splendid practical experience; the cafeteria benefited by the publicity given to the project, and best of all, the student body became "food selection conscious."

NEW HEALTH BOOKS for teachers and pupils

HEALTH EDUCATION MATERIALS

Mimeographed. Pp. 22. Bronx, N. Y.: Committee on Health Education in Schools of Bronx Tuberculosis and Health Committee, 226 East Fordham Road.

TEACHERS who wish to get a list of free and low cost pamphlets, posters and films will find this bulletin helpful. The classification of the pamphlets and posters is definitely related to the requirements of the New York City Course of Study and Syllabus in Health Education. In the table of contents are found headings such as Cleanliness, Exercise, Eyes, Hearing, Mental Hygiene, Safety, and Sunshine and Fresh Air.

THE PROBLEM OF NOISE

By F. C. Bartlett, M.A., F.R.S. Price, $1.25. Pp. 87. New York: The Macmillan Company, 1934.

NOISE has become so great in our modern civilization that scientists have attempted to measure it and discover its effect on mental and physical efficiency. In this little volume written by Professor Bartlett of the University of Cambridge there is a brief review of some of the most reliable experimental data on noise. He finds that the noises to which the average citizen is subjected are seldom loud enough to impair the hearing, that irritating noises affect working efficiency very little and that there is little evidence that healthy people suffer appreciably from strain due to noise. The complaint against noise he believes is often a sign of maladjustment on the part of the individual. There are several pages on what is to be done about noise. There is almost nothing on the effect of noise on children.

THREE FAMILY NARRATIVES

By George K. Pratt, M.D. Price, 75 cents. Pp. 75. New York: National Council of Parent Education, Inc., 1935.

WOULDN'T it be an exciting adventure to look in on a family of father, mother and children without being observed and to see what they do, hear what they say and through some supernormal insight be able to understand their thoughts and feelings? Perhaps there is the mother who is a social climber with high and old-fashioned ideas about her family. She is dreadfully upset by the doings of her adolescent son and daughter. Then there is the father, deeply concerned about his business, who is startled because his wife seems so "worked up" over some little thing the children have done. Then there are the children who have their school problems and no longer seem to please and understand their parents. They become fearful not only of school and their parents but also of themselves. Suppose you could read the thoughts of these four individuals. You might hear the girl say: "Crab—that's all they ever do, this whole darned family—crab, crab, crab about everything! Why can't they let me alone once in a while? Isn't there *anything* I do that pleases them?—What if I do wear my silk slip every day? What's so terrible about that?—Sure, I know silk slips cost money, but the family hasn't moved to the poorhouse yet.—Besides there aren't five girls in my class who wear cotton ones any more."

If you could hear the various members of this family talking to themselves it would naturally make you think, wouldn't it? You might get an insight into what was wrong with this family. You might see some of your own family problems reflected in these soliloquies. Probably you would feel like talking over this family with somebody else who wanted to have a happy family group.

This is what Dr. Pratt had in mind when he wrote these three family narratives to be used as the basis for study and discussion in parent education groups.

It requires little reading of this excellent pamphlet to realize that this is a new and promising approach to a relatively unexplored area in education, the problem of parent learning in the group situ-

ation. Every high school teacher should find these narratives worth careful study.

MENTAL HEALTH

By Frank E. Howard, Ph.D., and Frederick L. Patry, M.D. Pp. 551. New York: Harper & Brothers, 1935.

HAVE you learned to manage yourself successfully? Have you learned how to master your moods? Have you acquired healthy attitudes toward others and toward yourself? Are you living happily? If so, you may indeed count yourself as fortunate.

In the preface of this worthwhile book the authors state that "it is estimated that at least one out of every twenty persons will at some time during his life spend a period in a mental hospital. There are more persons confined in hospital beds for the mentally ill than for all other types of sickness put together. Nor are the fields of education and industry exempt. Up to 20 per cent or more of such personnel is handicapped by personality maladjustments."

Such facts have challenged the authors to write this book with its emphasis on the treatment of mental deviations. It is a book adapted for a textbook in college classes in psychology and mental hygiene.

HOW OUR BODY USES FOOD

A Junior High School Unit. Pp. 12. Baltimore: Department of Education, 1934.

IN 1931 a group of teachers studying with Dr. Lillian Davis at Johns Hopkins University developed a unit on the digestion of foods. This unit has been reorganized and revised and is now issued under the title "How Our Body Uses Food." It has now become a part of the regular hygiene course for seventh grade pupils in the Baltimore schools.

The purpose of this unit is to guide pupils in making their diet satisfactory. It is carefully planned and suggests many references and experiments.

SCHOOL HEALTH CONFERENCE

For the benefit of educational administrators, a school health conference will be held November 1 and 2 in Philadelphia, under the sponsorship of the Department of School Health and Physical Education of the National Education Association. The program will consist of discussions and demonstrations by school physicians, health educators and administrators, with regard to beneficial school health procedures.

"AMERICAN SCIENCE LEADS THE WORLD"

. . . Dr. K. T. Compton

SCIENCE has become an American culture, a truly great one. It is a tremendous moving force shaping a new type of civilization; it is giving us finer weapons to fight the age-old problems of mankind, especially disease; it lightens our labors; and daily develops new things for our comfort, convenience, and happiness.

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WHO CARES?

"Who cares," says little Marie Jane. "I don't fret when it rains—or when I have to stay indoors for other reasons. An' my mommie doesn't worry either, 'cause my daddy bought an

ALPINE
SUN LAMP

"Doctor says it's good for us—so I get my sunbath every day—and so does Mom and Dad. Our Alpine Sun Lamp keeps us feeling fine. Dad always says, 'That lamp keeps me fit as a fiddle.'"

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See the Hanovia Alpine Sun Lamp demonstrated, at your local dealer's. Send this coupon for descriptive booklet.

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WHEN WRITING ADVERTISERS PLEASE MENTION HYGEIA

WHAT IS TO BE DONE WITH THE NEW LEISURE?

A world which no longer bows under the curse of "By the sweat of thy brow shalt thou earn thy bread" now faces the problem of accepting what generations have longed for—leisure. This modern age must answer the question, Is real happiness in achievement or in anticipation? An article in *Health and Physical Education* discusses several phases of the problem.

Civilizations in other days have paid dearly for the privilege of leisure. The great philosophers of Greece once condoned slavery because of the fact that it gave leisure to the citizens. But Greece had a philosophy for leisure. America confuses leisure with idleness or debauchery. The reason is quite simple. America has developed a philosophy of success centered around quantitative things.

But what has happened to the average man caught in the so-called machine age? He turns out to be a spectator in his free time merely because it is the easiest thing and provides escape from boredom. His leisure pursuits are external, temporary and, in the end, "dust in the mouth."

Today man's time must have a threefold dimension: his work or vocation; his recreation or recuperation, and his time for creative arts. Men have dreamed of Elysian Fields of freedom for creative work. Few really expected to find such an opportunity in this life; but the mechanical age, helped into being by Edison's 1,100 patents, has handed it to the modern era on a silver platter.

Civilization has advanced because man has had to act. We are the children of those who acted. The organisms that let down, that did not respond to the activity urge in the past, may be viewed at leisure in the museums of natural history. Today hundreds of men should have on their tombstones: "Died at 30—buried at 60." No person is so miserable as the individual who says to himself, "There is nothing else for me to do."

The happy person is the one who dies with hundreds of unfulfilled wants, yet whose curiosity and joy in living increased with the years.

Play makes the child into a man and keeps the man a child, growing and improving all his life.

—*Childhood Interests.*

Time and money, spent in training the body, yield a larger interest than any other investment.

—*Gladstone.*

FOR SLENDER YOUNG NURSING MOTHERS

No. 382.....$1.25

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PRIVATE CHARITY LAGS IN FACE OF FEDERAL RELIEF FUNDS

How are the citizen and his community to exercise their responsibility in the programs for economic security under consideration in Washington? To what extent are we "our brother's keeper"? The problem receives due consideration in an article appearing in *Scribner's* magazine.

The outpouring of relief funds over the entire country cannot hide the fact that a 40 per cent increase on pay rolls does not necessarily indicate a 40 per cent decrease in relief rolls. Statistics show that only one in every ten of those reemployed had been on relief. Many had already been long associated with the industry. But how had they been getting along in the interim?

Some had nest eggs, insurance or other means of subsistence through the "lean years." Undoubtedly many of those now added to relief rolls were able to weather the first four years but have nothing left for the fifth year.

Every man and woman over 50 who once was accustomed to giving to the beggar and the tramp remembers the struggle he had with himself not to give to all who asked but to give his sympathy, his time and his money to building up institutions which would help cut off the beggars and the tramps at the source.

However, not only is our sound and practical service for meeting human needs being demoralized by the obvious difficulties of mass relief, but on all sides the fact of federal relief is being seized on by former supporters of such essential institutions as hospitals, nursing services and clinics as a reason for backing down on contributions.

Not to support these needed agencies now is to undermine individual and community efforts. No greater disaster could come on the United States than the releasing of any American from this fundamental obligation: to look after those neighbors who for one reason or another are out of work, old without resources, sick without funds, those for whom the responsible people of the United States have always regarded it their business to provide.

Thinking and feeling one's way into nature's fundamental forms, into the harmony of design, into the beauty and mystery of line and volume and color may be, if we choose to make it so, one way of shaping character toward the divine ideal.—*Childhood Interests.*

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"REVIEW OF RECENT STUDIES ON THE ANTINEURITIC VITAMIN" by H. D. Kruse, Sc.D., and E. V. McCollum, Ph.D., Sc.D.
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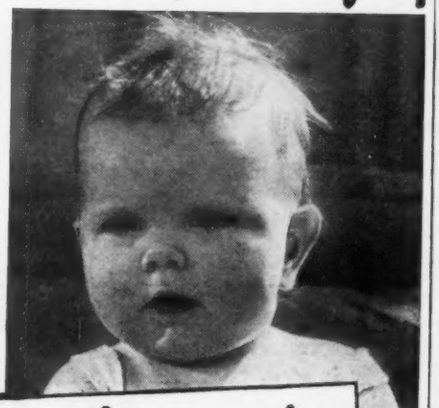

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THE MYSTERY OF THE RED FACED MAN

(Continued from page 823)

"And nobody knows the cause of this thing?" asked Carey.

"Nobody knows the cause," repeated Trebor.

"What do you do about it?" said I.

"Very little. The disease cannot really be cured," he answered, "but much can be done to prolong life and relieve the symptoms. One of the oldest methods of the treatment now known, one that was used for practically everything in olden times, is bleeding the patient from a vein. This will afford relief, but only temporarily."

"Can't you put a brake on the blood-forming machinery?" asked Carey.

"To some extent," replied Trebor. "The x-rays and radium will depress the blood-making centers and make them less active. But one must be very cautious with such treatment. After a while both methods lose their effect. There is also a drug that can be used to destroy the red cells and keep the number near normal. Unfortunately, this drug is a dangerous poison and has to be given with great care in very small doses. One cannot keep that sort of thing up indefinitely, however."

"How long can a person last with this thing?" I asked.

"A number of years," he answered, "but one must be constantly on guard against complications such as hemorrhage or heart failure from overwork of the heart in pushing the extra blood around. Strangely enough, polycythemic patients are rather susceptible to infections, too."

"What causes the shortness of breath?" Carey asked.

"The fact that there is so much blood it cannot all be thoroughly oxygenated," said Trebor. "Odd as it may sound, although there is an excess of oxygen transport, none of the cells get a full load, thus causing an actual oxygen shortage."

"Some mystery," said Carey. "That disease is a puzzler, all right. Why don't you fellows find out what it's all about?"

"Well, for one thing," said Trebor, "it's a rare and infrequent condition, and you don't meet many polycythemic patients for study. Some one will find out its mechanism some day, however, providing no one forbids his experiments."

"Well, who would?" I asked.

"Those who object to the use of animals to study disease," Trebor replied. "You know there are people who want to prevent it by legislation."

"I'll bet they don't have polycythemia," commented Carey. "If they did and they knew that some one could discover a cure for it by animal experimentation, they'd probably offer to buy the animals."

"Maybe you're right," laughed Trebor. "You know the old saying, 'It all depends on whose ox is being gored.'"

(To be continued)

PARENTS NEED SANE ATTITUDE TOWARD SEX EDUCATION OF CHILDREN

The goal of sex education is no mere mastery of biologic facts; it is a much more inclusive preparation for fine living and a satisfying family life. *Parents* magazine further explains that the modern approach to the discussion of sex education involves first of all the adequate preparation of parents for their part in shaping the thinking and feeling of a child with regard to sex. This angle of the matter is so important that today the chief concern in sex education is not the child but his parents.

Parents' attitudes on this subject depend to a large degree on the kind of preparation they have had or take the trouble to secure for their function as teachers in the matter of sex.

A satisfactory preparation includes four things: first of all, a satisfactory adjustment as husband and wife, for if there is physical or psychic maladjustment, they are poorly qualified for the sex education of a child; second, an adequate parental understanding of the nature of sex and its relation to the highest individual and social values in human life; third, a suitable vocabulary to tell the children the needed facts, and last, the ability of the parents to face the question in a matter-of-fact way without a sense of confusion, shame or guilt when a child asks his inevitable questions. Nothing they say is nearly so effective as the way it is said.

If ever the human race is to be roused to its highest practical level, intellectually, morally, and physically, the sciences of medicine will perform the service.

—*Descartes.*

The best thing that a doctor ever does for a patient suspected of being tuberculous is to tell him the truth in a clear, kind way. Then he has a chance to get well.

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MODERN EDUCATION PUTS TEACHER IN IMPORTANT RÔLE

Most parents rely on the teacher for the assumption of many functions previously carried on at home. Parents are generally not adequately prepared to undertake a systematic program of training their children according to the principles of mental hygiene.

Preschool training, however, has three goals, according to the *Physical Education Digest:* to arouse intellectual curiosity in the child, to teach him independence and to teach him how to solve new problems without emotional disorganization. These goals imply the traits that will aid the child in making a normal adjustment later on in life when the protective help of parents and teachers will not be available.

Perhaps one of the most important functions of the classroom teacher is to train pupils to face reality without resorting to a variety of evasions, escapes and rationalizations so frequent in maladjusted individuals. The child must also be taught not to expect success in every venture. He must understand that he cannot always surpass other children.

Of the large number of problems found among elementary school children, fantasy is one of the most frequent. Daydreams function as mechanisms of escape from frustrations. Every child will daydream to some extent where ambitions are concerned, but when the daydreaming becomes excessive, the child is in need of mental hygiene. This the teacher can apply by discovering the desires of the child and redirecting his attitudes toward his environment.

Excessive timidity is another common symptom of maladjustment which may often be overlooked in the classroom. A habitual defense mechanism on the part of the child is an attempt to solve the conflicts of insecurity.

No more important educational problem exists than that of training children to adjust themselves properly to the problems of daily living.

A slender acquaintance with the world must convince every man that actions, not words are the true criterion of the attachment of friends; and that the most liberal professions of good will are very far from being the surest marks of it.—*George Washington.*

Nothing is so infectious as example.—*Kingsley.*

"COME OUT OF THE KITCHEN MOTHER!"

"THERE'S so much puttering around with pots and pans in our house, that I hardly *ever* get to see my mother! She should spend more time with me, and less in the kitchen. I'm growing now. Somebody has to teach me how to play and think and act.

"I think I'll tell mother that Heinz Strained Foods taste better to me than most of the foods prepared here in our house. They even *look* better; the fresh color just seems to make me *hungry*, and I'll bet that Heinz cooks know just as much about straining and cooking vegetables as my mother does.

"Besides, I heard the doctor say that Heinz Strained Foods have been *officially* accepted by the American Medical Association's Committee on Foods—meaning that in vitamin and mineral retention, Heinz Strained Foods are all right with the doctors. Mother!—come out of the kitchen a moment while I tell you . . ."

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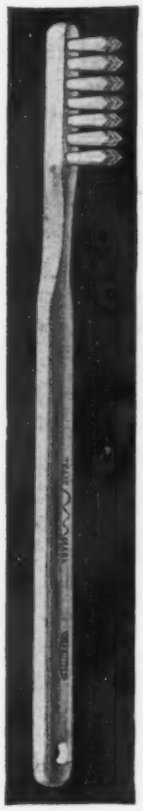

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A MENTAL PERSPECTIVE: HOW TO GET IT

The business of getting a perspective may be compared to the way one looks at a picture. To appreciate the artist's use of pattern and design, the lights, shadows, balance and color, one must move away from the picture and look at it from a distance. According to the *Mental Health Bulletin* of the Illinois Society for Mental Hygiene, the patient needs to put some mental distance between himself and the emotional turbulence of the problem to be solved.

The world is full of people who have tried to solve their problems by taking a trip or moving around frequently only to find that the situation remains unchanged because they themselves are unchanged. They have failed to objectify their problems; to look at them as they might appear to other persons who have had similar experiences.

One of the commonest difficulties in recent years is the necessity to reorganize the standards of living. According to one woman her problem was solved by remembering the advice given her by the family physician years ago. Instead of giving her medicine for a physical condition which was the result of a necessary family readjustment, he said, "If you can change the situation, why go ahead and change it. If you can't, then accept it." She applied the advice and set about making the home function as smoothly as possible.

Another man who had lost all his savings in a bank failure, then his position, and finally his home, refused to believe that "everything was gone." He maintained that on the contrary he had lost only "things"; he still had his wife and family, his friends, his health, his energy and his courage.

Thus persons who have insight into their mental and emotional problems have a good chance of maintaining mental health.

Let the old, gripped by baseless and adamantine food prejudices, continue in their dietary abominations. Many of their organs are already marked for the grave, and, at most, their efforts to think result only in a rearrangement of their prejudices. But do spare our children from such prejudices, to the end that they may grow up sounder of wind and limb and therefore, more able to carry on the burdens that we will surely hand to them. And who knows but what dietary intelligence among the children may in some small way seep through to their parents.

—George H. Bigelow.

BOTH PARENTS NEED THOROUGH INSTRUCTION ON PRENATAL CARE

Most men as well as many women assume that childbirth will take care of itself as long as a good doctor is present at the time the baby is born. But unfortunately this is not the case, according to an article in the *National Parent-Teacher* magazine.

It is increasingly important for both husband and wife to know that adequate prenatal care may be the means of preventing developments of a serious nature. A woman tends to think all too little of the risk. If her husband realizes the need he will insist that his wife get and use the care she really should have.

A tragic sight is the home where no plans have been made for the baby's arrival. The mother comes home from the hospital, and a few days later the entire house is in confusion. The mother becomes nervous and worn out, and the father is heartily discouraged. All this can be prevented. A schedule should be made so that they can fit the baby into the home without disrupting the scheme of things to which they have become accustomed. In almost every community there are visiting nurses who will help parents make such practical plans.

During pregnancy no one but the doctor should tell the expectant mother what to do. Many young parents become unnecessarily frightened at the long lists of "don'ts" given by so-called solicitous neighbors. The doctor is the only one who can be depended on to point out which conditions are serious and which are unnecessary worries.

Do not worry; eat three square meals a day; say your prayers; be courteous to your creditors; keep your digestion good; exercise, go slow, and easy. Maybe there are other things your special case requires to make you happy but, my friend, these I reckon will give you a good life.—*Lincoln.*

IT IS A FACT

Your body contains 263 bones.

You have 500 muscles.

There are 30 pounds of blood in your body.

Your heart beats 100,800 times a day.

You have 10,000 nerves in your body.

You breathe 1,200 times each hour.

Your heart is 4 inches around and 6 inches long.

You have three layers of skin.

Is This Possible?

YES, some people actually can drink strong coffee and then go to bed and "sleep like a baby." And others may lie awake tossing half the night if they indulge in an evening cup of coffee. But the coffee drinking habit is such a universal one that the arguments concerning it seem to be endless. Are you pro or con?

At any rate, wouldn't it be well to be informed on this sometimes troublesome subject? Read Alfred Gilman's article on "Caffeine and Health" in next month's HYGEIA, the first of a two-part series. It will enable you to know the facts and to be guided intelligently in making your own decision about drinking coffee.

Dr. Gilman describes the effects of caffeine on the body and points out the types of persons who should avoid its use. He discusses its effects as a stimulant, its action in connection with high blood pressure, its effect on the kidney and the stomach, and its consumption in old age. Here is a clearly stated summing up of the findings of scientific investigators and the opinions of leading men in medicine and public health concerning caffeine and its effect on health.

Read in the October Issue of HYGEIA

A SERIES ON GOITER

Three enlightening articles by Dr. S. Ginsburg—the first one next month dealing with "Prevention and Treatment of Goiter." The author describes the various types of goiter, tells how the development of simple goiter may be prevented, and how it may be cured by medical treatment, operation, radium or deep x-ray treatment.

CONTAGIOUS DISEASES

Regina J. Woody tells how to care for the contagious patient in the home, and gives advice on the arrangement of the sick-room, feeding the patient, and the care of dishes, clothing and linens to prevent contagion.

CHILDREN'S FEET

They deserve good care, for poor feet in children may cause incorrect posture and lead to ill health. Dr. Philip Lewin explains to mothers the causes of foot troubles and how they may be avoided. Read this article—then check your own child's feet! It might prove enlightening.

YOUR CHILD'S SPEECH

Does your child talk as well as he should? At least every tenth person has some type of speech defect. And there are over a million stutterers. Bryng Bryngelson, director of the speech clinic at a midwestern university, gives some helpful facts about stuttering, lisping, sound substitution and other speech disorders and their underlying causes.

A HOME FOR CHILDREN

Not every house is a home for children, but Alma H. Jones explains how to make a home comfortable and convenient for children as well as for grownups. Here are pointers on children's furniture, washing and bathing arrangements, wardrobe space, and play equipment.

AND ALSO

articles on the child guidance clinic, dentistry, the value of milk in the diet, surgical conditions in children, an exposure of some patent medicines, and other interesting subjects relating to health. Begin your subscription now with the October issue—the coupon below will bring it to you at a low introductory price.

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